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CURRICULAR IMPLEMENTATION OF THE ROY ADAPTATION MODEL

BY

HEATHER ANN CAMPBELL ANDREWS

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN
PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

EDMONTON, ALBERTA

SPRING 1987

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....

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....

Callista Roy
....

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Abstract

CURRICULAR IMPLEMENTATION OF THE ROY ADAPTATION MODEL

Heather Ann Campbell Andrews

Use of a conceptual model as the organizing framework for a nursing program has the potential to integrate, unify, and coordinate the curriculum. However, questions arise as to the degree of implementation and the extent to which nursing models can and should be applied. As an intial step in addressing this concern, the purpose of this research was to describe and analyze the extent to which the Roy Adaptation Model was applied as the nursing conceptual basis in three programs preparing nurses for initial registration.

This was a multi-site organizational study, qualitative in nature. Two-day site visits to three Canadian nursing schools were conducted. Information regarding the application of the Roy Model in sixteen curricular dimensions was collected by means of document analysis, interview, questionnaire, and observation.

It was determined that the influence of the Roy Model was evident in curricular documentation, particularly in the terminal objectives, curricular structure, course content, the introductory nursing course, patient assessment tools/procedures, classroom and clinical activities, assignments, examinations, and student evaluation. There was varying

use of concepts associated with the model in the promotional materials and philosophy statements and use of the model did not weigh heavily in faculty performance evaluation. The description of faculty implementation of the model in terms of the Levels of Use framework demonstrated distinctly different profiles in each program. The framework provided interesting insights into and raised important questions about faculty members' use of the innovation. Students were able to identify the model used in their program; their description of the manner in which the model affected the program and their practice varied in refinement.

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Heather A. Andrews

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CHAPTER 1

Introduction

This research involved the application of educational change theory to an important area of post-secondary education, the preparation of nurses for initial registration. It was an implementation study, described by Fullan and Pomfret (1977:361) as research "concerned with the impact of an attempted innovation upon the user system or selected components of it." The particular innovation under investigation was the implementation of a nursing model as the conceptual basis for curriculum development.

In this chapter, the conceptualization of the study is explored. Initially, the background of the study is presented. This is followed by delineation of the fundamental problem and the purpose of and delimitations associated with the research. The paradigm underlying the project is noted and the conceptual framework for the investigation is described. Finally, key terms related to the research are defined and limitations are identified. In conclusion, the format for the remainder of the dissertation is presented.

Background for the Study

Historically, nursing education programs have been described as seriously lacking in integration and fraught with problems such as lack of direction, unnecessary repetition of content, diversity of approaches to the study of nursing, and seeming irrelevance of support courses. Chater (1975:428) attributed many of these problems to the rapid societal advances in health care: "Curricula have become increasingly additive in an attempt to ameliorate," the result being complex and inconsistent "patchwork" programs.

In an attempt to deal with such problems, nursing educators of the 1970s began addressing the concept of "the integrated curriculum", defined by Quiring and Gray (1982:38) as a curriculum departing from the traditional medical (disease-oriented) model and having as its basis some other organizational framework. Torres (1974:2) was credited with a representative definition of the term "integrated:"

> [T]he integrated approach means blending the nursing content in such a way that parts or specialities are no longer distinguishable. This involves concentrating on the generalizations relating to nursing rather that the specifics.

In their research conducted to identify the models employed to organize nursing curricula, Quiring and Gray (1982:40) found that "the overwhelming majority of schools [there were 91 respondents] attempt to integrate curriculum components through the use of some combination of concepts, threads, and nursing process orientation." Quiring and Gray (1982:39) made no attempt to define their categories and, as a result, the meaningfulness of their data is open to question, however, the fact does remain that the respondents were using concepts and/or models of some description to integrate their curricula.

Hill, Gortner, and Scott (1980:10), in their overview of educational research in nursing, identified model development and curriculum modifications as contemporary topics of research in nursing education. They made the following observation:

> While most nursing programs identified a common framework [including the student, man/society, health, and nursing], the development, emphasis and priorities of the concepts varied from programme to programme (Hill et al., 1980:11).

With respect to research related to curriculum modifications, Hill et al. (1980:12) noted particular attention to the movement from a disease-centered orientation to a health-centered curriculum.

Much of the nursing education literature arising since the early 1970s advocated the use of a nursing model as an organizing framework for the curriculum and, as Styles (1976:739) observed, "educators seem to be in agreement that a conceptual framework is a necessity for every nursing curriculum. For example, Neuman and Young (1972:267) proposed that a selected nursing model, when used as the conceptual basis, provides the needed unity, coordination, and integration for curriculum development. Smith (1982:117) stated that "the nursing curriculum can achieve integration if a model of nursing is used as the conceptual framework."

Nursing models, as conceptual descriptions of nursing, provide clear statements of what nursing is and the service it renders. As Roy (1984:6) has specified, the major parts of nursing (the person, the environment, health, and nursing) are described and their relationships to one another are identified.

It has been suggested that the use of a nursing model as an organizing framework for a nursing curriculum accomplishes several goals. According to Bevis (1982:99), a nursing model can assist in the delineation of nursing knowledge and help to differentiate between important and inconsequential material. As a result, functions unique to professional nursing practice can be isolated and core concepts can be identified. In addition, direction for the selection of support courses is provided by virtue of the theoretical basis of the model and the skills required for its application in practice. Thus, integration of curricular content and evaluation of student progress are facilitated.

The decision to adopt a nursing model as the basis for curriculum development represents a pervasive policy decision that has ramifications for all aspects of the nursing program. Chater (1975:430) described the nursing model as the entity that provides direction for the "subject" component of the curriculum. Each component of the curriculum must align with and reflect the nursing model if full potential for implementation is to be realized. The nursing model must complement the philosophy of the nursing program and the beliefs of the faculty. It may be either developed by faculty members or selected from models available in the nursing literature. However, there are advantages associated with the choice of a published model: the degree of sophistication achieved by public application and the resulting human and published resources, for example.

The Problem

Use of a conceptual model as the organizing framework for a nursing program has the potential to integrate, unify, and coordinate the curriculum. However, questions arise related to the degree of implementation and the extent to which nursing models can and should be applied as the conceptual basis. Styles (1976:744), in an exploration of the ramifications and implications of the so-called "integration" of nursing curricula, expressed concerns about trends that were being observed "in the name of integration." Although she acknowledged the positive outcomes of the movement, the focus of her presentation was the questionable and untoward influences or products, namely "ponderous courses, ponderous teams, ponderous decision making, ponderous groupiness, ponderous uncertainties." As Styles (1976:744) has identified, the result has been an apparent disenchantment with the movement, leading in some situations to its abandonment.

Is it feasible that applications of a particular nursing model could actually aggravate the implementation problems that the approach seeks to overcome? An initial question in relation to this problem deals with the description and analysis of what is actually happening in practice regarding the implementation of a model as the nursing conceptual basis for an educational program. This question gaves rise to that addressed in this research: To what extent is the implementation of a specified nursing model evident in nursing programs that purport to be using it?

Of particular relevance to a policy decision to adopt a nursing model as the basis for curriculum development is the literature relating to the change process as it applies to educational organizations. The concept of "degree of implementation" of an innovation was a focal interest in this project. It was contended that, unless there is evidence that an educational innovation has actually been implemented, it is not possible to determine the effects of the innovation on other aspects of the curriculum, including student outcomes.

Although the literature related to adaptive change (for example, Berman, 1980) would advocate the modification, specification, and revision of a policy or innovation according to the needs of the institutional setting, the notion of the extent to which a particular innovation has been implemented in a specific situation is an important consideration when establishing the effect of the innovation on student outcomes. Berman and McLaughlin (1976:347) pointed out that "the adoption of an innovation [a nursing model, for example] cannot be assumed to provide an accurate forecast of its actual use." Hall and Loucks (1982:134) expressed a similar concern:

> [W]hen policies are implemented at the school level, their operational form is not necessarily congruent with the original intentions of the policy makers nor are the outcomes of the change necessarily those that were envisioned.

Hall (1979:14) noted that, although some adaptations of innovations represent only minor modifications or even improvements of what the developer had in mind, other forms of the innovation "represent drastic mutations or such partial implementations that the developer would disclaim any association with the form that is being used at a particular site." In the same vein, Scheirer and Rezmovic (1983:599) observed: "To correctly attribute the observed outcomes of a social program to the intervention, the researchers should have empirical evidence on the extent to which components were implemented."

Considerations of the degree of implementation and the extent of adaptation of the innovation were fundamental to the research reported in this document. There must be evidence that the nursing model has been appropriately implemented before the outcomes of such an innovation can be assessed.

Purpose and Delimitations

The purpose of this research was to describe and analyze the extent to which a particular educational innovation--the adoption of a nursing model as a conceptual basis for curriculum development--has been applied in different nursing programs. Delimitations of this purpose related to the particular nursing model under investigation (the Roy Adaptation Model for Nursing) and the selected curriculum dimensions under investigation. The indicator chosen to provide description of teacher application of the model (the Levels of Use framework) constituted another delimitation. In addition, the study was delimited to three Canadian diploma schools of nursing preparing students for initial registration. The factors influencing the initial decision to adopt a nursing model and the reasons for choosing the Roy Adaptation Model, in particular, were a peripheral concern and brief exploration of the circumstances surrounding the adoption of the model was undertaken.

The Roy Adaptation Model for Nursing, as described by Roy (1984) and Andrews and Roy (1986), is currently one of the most highly developed and widely used conceptual descriptions of nursing. Since its initial development by Sister Callista Roy in the late 1960's, nurses in education and practice settings have helped in the clarification, refinement, and expansion of the model and thus have contributed to its present level of development. Specification of the primary elements of the model is presented in Chapter 2 of this document.

Sixteen curricular dimensions were identified as factors that could potentially reflect the use of a nursing model as the conceptual basis in an educational program. Description and definition of these dimensions are presented in Chapter 2.

The concept of Levels of Use was derived from the work of Gene Hall and his associates at the Research and Development Center for Teacher Education at the University of Texas at Austin. Over the past 13 years, this team has developed and researched a conceptual structure for the investigation of change and innovation in educational institutions (the Concerns-Based Adoption Model). One dimension of the model--Levels of Use--was of particular interest in this study.

The Levels of Use dimension, as described by Hall, Loucks, Rutherford, and Newlove (1975:52), focuses on the knowledge, behaviors, and attitudes of the innovation users through various stages--from orienting, to managing, and finally to integrating use of the innovation. Levels of Use are described by Hall et al. (1975:55) as

> distinct states that represent observably different types of behavior and patterns of innovation use as exhibited by individuals and groups. These levels characterize a user's development in acquiring new skills and varying use of the innovation. Each level encompasses a range of behaviors, but is limited by a set of identifiable decision points.

The Levels of Use dimension of the Concerns-Based Adoption Model provided an indication of the extent to which individual faculty members were implementing the innovation in their particular teaching situations.

The Research Paradigm

Bogdan and Biklen (1982:30) have defined a paradigm as "a loose collection of logically held-together assumptions, concepts, or propositions that orient thinking and research." Two broad research perspectives--qualitative and quantitative--represent opposite ends of a research-approach continuum. The former represents theory-generating approaches to investigation of a phenomenon; the latter, theory-testing approaches.

This research was primarily qualitative in nature. Data were collected in the field through the use of a multi-site methodology involving primarily interview, questionnaire, document analysis, and observation. The objective of the research was description and analysis, a feature identified by Bogdan and Biklen (1982:28) as characteristic of qualitative research.

The concept of triangulation also influenced the approach to collection of data. Triangulation has been described by Webb, Campbell, Schwartz, and Sechrest (1966:3) as the use of multiple measures to assess theoretically relevant components of the same phenomenon such that the proposition is confirmed by two or more independent measurement processes. As Webb et al. (1966:3) stated, "If a proposition can survive the onslaught of a series of imperfect measures, with all their irrelevant error, confidence should be placed in it." Scheirer and Rezmovic (1983:610), following analysis of 74 program implementation studies, also stressed the importance of multiple measurement techniques:

> The larger the number and variety of implementation measures used, the greater the likelihood that method-specific biases will be detectable, that multiple components of the innovation will be examined, and that implementation, therefore, can be validly assessed.

The qualitative approach to research and the concept of triangulation have each influenced the design of this study. Although much qualitative research proceeds, according to Glaser and Strauss (1967:6), with a view to the generating of conceptual relationships, it was possible to develop a theoretical model to show the relationship among concepts for this particular study. This framework is presented in the following discussion.

Conceptual Framework

Three bodies of literature have been brought together to form the conceptual framework for this research. Initially, the Roy Adaptation Model with its associated essential elements was the focal innovation. Secondly, it was recognized that any attempt to integrate a particular innovation into a curriculum involves a number of dimensions associated with the concept of curriculum such as those delineated by Leithwood (1981:27). The concept of Levels of Use of the innovation was selected to provide an indication of faculty use of the innovation in the teaching situation while curricular documentation and a questionnaire completed by students provided information about the remaining curricular dimensions. The combination of these three aspects provided the conceptual framework for this investigation. (See Figure 1.1.)

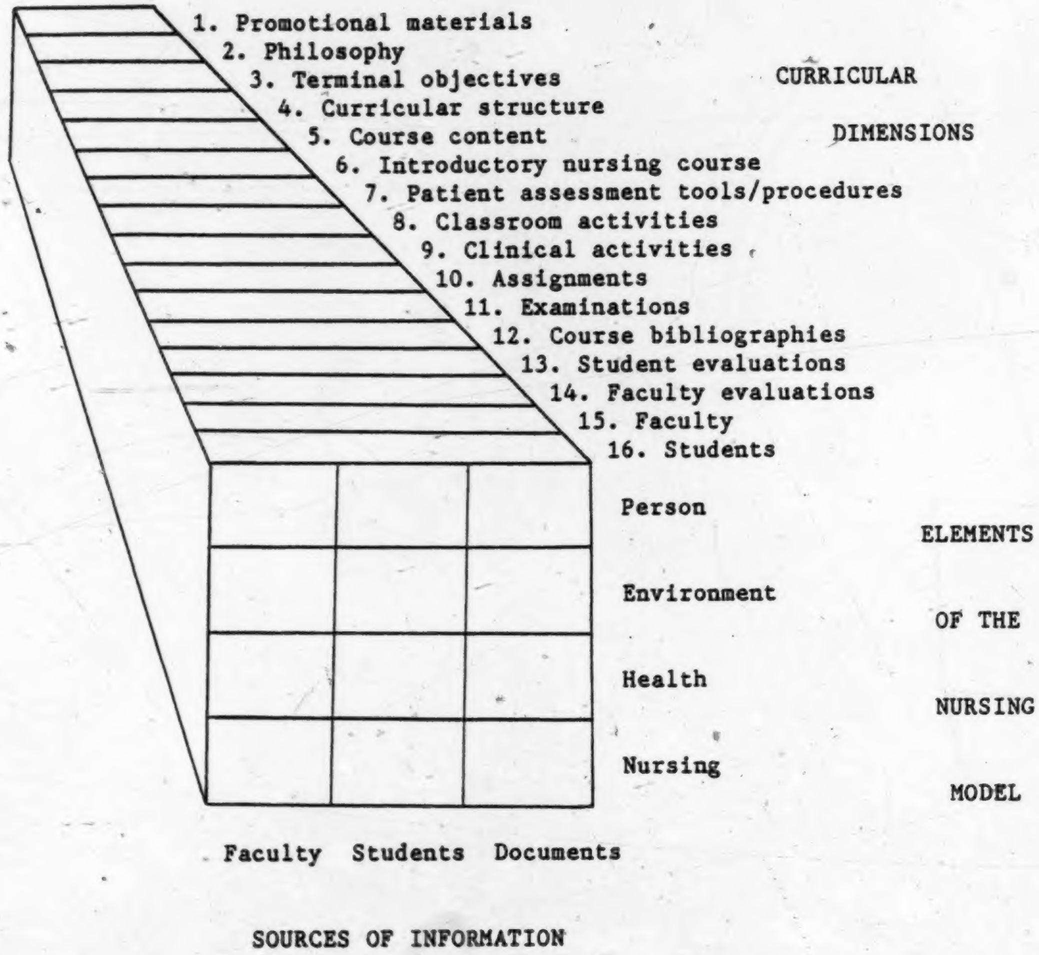
1. Promotional materials
2. Philosophy
3. Terminal objectives
4. Curricular structure
5. Course content
6. Introductory nursing course
7. Patient assessment tools/procedures
8. Classroom activities
9. Clinical activities
10. Assignments
11. Examinations
12. Course bibliographies
13. Student evaluations
14. Faculty evaluations
15. Faculty
16. Students
CURRICULAR DIMENSIONS
Person
Environment
Health
Nursing
ELEMENTS OF THE NURSING MODEL
Faculty
Students
Documents
SOURCES OF INFORMATION

Figure 1.1

Conceptual Framework

Significance

The need for researchers and practitioners to consider the implications of the degree of implementation in the assessment of the effects of a given innovation has been stressed by a number of theorists. As Scheirer and Rezmovic (1983:599) observed, the concept of "degree of implementation" is critical in order to derive valid conclusions in studies of innovation outcomes and processes of organizational change." The proliferation of implementation studies over the past number of years as identified by Fullan (1981:195) is evidence of increasing recognition of the importance of the concept.

At this point in the history of nursing education, the majority of nursing education programs in Canada and the United States would claim to be using a nursing model as the conceptual basis for their nursing curricula. As Flaskerud (1983:224) noted, "The National League for Nursing is actively involved in instructing schools of nursing in the use of nursing conceptual frameworks in curriculum development." Another indicator of the pervasive nature of this trend is that, in many locales, approval bodies require it. For example, the Ontario Ministry of Colleges and Universities (1984:8), in their "Standards for Diploma Nursing Programs" identified as one of their curriculum criteria:

> The curriculum is based on a theoretical framework. . . . defined as a philosophic construct which provides a basis for curriculum organization and guidance for selection of content and sequencing of learning experiences. It incorporates beliefs and theories about the educational process, nature of man, health, illness and nursing.

The nursing literature to date has theorized about the implications of such a commitment, however, there is a dearth of research addressing the ramifications of this curricular innovation and its effects on student outcomes. As an initial step to address this gap, this research sought to determine evidence of the degree of implementation of one nursing model in three nursing education settings.

Definition of Terms

An understanding of the manner in which specific terms have been used in this research is essential to the interpretation of this study. The following terms are of particular importance:

1. **Conceptual framework.** A theoretical model that has been developed to show the relationship among constructs and/or concepts (Field and Morse, 1985:4).

2. **Conceptual framework for curriculum development.** A set of related statements about [the] student, [the] setting, and [the] subject characterized by clarity, cohesiveness, and consistency (Chater 1975:431).

   > The **subject** component calls for an explicit definition of nursing and the conceptualization of nursing practice [that is, the nursing model] (Chater, 1975:430).
   >
   > The **setting** is . . . the entire gamut of social, economic, political, and cultural parameters, both internally at the institutional level and externally within the immediate and larger community (Chater, 1975:430).
   >
   > The **student** category (learner) consists of descriptive characteristics of student populations, including concepts and theories about motivation, interests, goals, self-concept, and identity (Chater, 1975:430).

3. **Controlling institution.** The educational or service institution (college or hospital) of which the school of nursing is a part.

4. **Curriculum.** The content of courses, the strategies for learning and teaching, and the methods employed in measuring whether or not the stated outcome(s) has been achieved (Smith, 1982:118).

5. **Curriculum structure.** The manner in which the courses of study are organized; how content is integrated to facilitate the student's achievement of the terminal outcomes of the program. Curriculum structure is described in terms of major content areas or blocks, content threads, and process threads.

   Major content areas are blocks of study that tend to be dictated by factors such as the academic calendar and the availability of clinical facilities.

   Content threads are concepts that are integrated throughout the curriculum and are introduced in a progressive manner.

   Process threads are concepts that are emphasized throughout the curriculum with increasing expectation of student skill relative to the specified process.

6. **Levels of Use.** Distinct states that represent observably different types of behavior and patterns of innovation use as exhibited by individuals and groups (Hall et al., 1975:55).

7. **Nursing model.** A representation of the major parts of nursing and how they relate to one another (Andrews and Roy, 1986:4).

8. **Triangulation.** The use of multiple measures to assess theoretically relevant components of the same phenomenon such that the proposition is confirmed by two or more independent measurement processes (Webb et al. 1966:3).

Limitations

A primary limitation of the study design must be considered in the interpretation of the findings associated with this research. Although the value of extensive observation in both classroom and clinical settings was recognized, collection of information was confined to document analysis, interview of selected faculty members, and a questionnaire completed by students except for brief classroom observation in one setting. As a result, the description of the manner in which faculty members actually use the innovation in their particular teaching situations was limited to the extent to which the Levels of Use framework as used in this study elicited accurate information about personal use of the innovation.

Summary

This chapter has provided an introduction to the research addressed in this dissertation by describing the background of the problem and setting forth the purpose of this particular research undertaking. In addition to articulating the research paradigm and conceptual framework underlying the project, the significance of the project was explored, limitations were identified, and important terms were defined.

A review of selected literature pertaining to the concepts that contributed to the conceptual basis for this research study is presented in Chapter 2. The review focused on the theory and research associated with educational change, the implementation of change, and nursing models as a conceptual basis for curriculum development.

In Chapter 3, the methodology associated with the project is described. Such topics as the population and sample, the research design, the data collection techniques, and the treatment of data are explored.

Findings of the study are reported in Chapters 4 to 7. The results of the preliminary survey are addressed in Chapter 4 while Chapters 5 to 7 contain reports on the visits to the three schools of nursing that served as subjects for the investigation.

Interpretation of the findings was reserved for Chapter 8. Therein, a summary of the research is provided, interpretive discussion is conducted relative to selected topics, implications are addressed, and concluding remarks highlight the understandings that have evolved relative to the purpose of the research.

CHAPTER 2

Review of Selected Literature

Two main bodies of literature were deemed particularly relevant to the placement of this research problem in a theoretical context. A broad basis for departure was formed by selected theory and research pertaining to educational change and the predominant perspectives related to this process. Brief attention was directed towards factors affecting change. Focus was narrowed to pursue the topic of the implementation of change and innovation, its definition and measurement.

Since the particular innovation being considered in this research related to the implementation of a nursing model as a conceptual basis for curriculum development, selected literature relating to nursing models and their curricular application was explored. In addition, a brief exploration of the essential elements of the Roy Adaptation Model, the focal innovation in this project, was conducted.

This review focuses initially on selected theory and research pertaining to educational change. Initially, the meaning of educational change is explored. Secondly, various perspectives on the change process are presented with more indepth presentation of a three-stage conceptualization involving initiation, implementation, and incorporation. Attention is then directed towards analysis of some perspectives on the process. Brief investigation of factors affecting change is then conducted with a primary focus on institutional motivation, project implementation strategies, leadership, and teacher characteristics.

Discussion is then directed towards selected literature relating to the measurement and evaluation of the implementation of an innovation. The conclusion to this review introduces the Concerns-Based Adoption Model with particular focus on the concept of Levels of Use--a major factor in the conceptualization of this project.

Departing from the major topic of educational change, but closely related to the purpose of this research is selected literature relating to nursing models and their use as the conceptual basis for nursing education programs. The meaning of "nursing model" is explored and the essential elements of the nursing model constituting the focal innovation in this research are itemized. The topic then turns to curricular use of a nursing model and the identification of curricular dimensions that provide evidence of the use of a nursing model as a conceptual basis for a nursing program. In this manner, the conceptual framework for the investigation is constructed and supported.

Educational Change--Theory and Research

Most educators agree that the past several decades have been characterized by educational reform and change. McLaughlin and Marsh (1978:69) referred to the "decade of reform" (1965 - 1975); Loucks, Newlove, and Hall (1975:1) suggested that the most predictable characteristic of education was change. McLaughlin (1976:167) labelled the period during the 1950's and 1960's "the education decade," characterized by a curriculum reform movement.

Arising from these "decades of educational reform," however, was evidence that many of the attempts at educational change have failed. For example, Leithwood and Montgomery (1982:309) identified "well-documented failure of a large proportion of past program improvement efforts." Likewise, Loucks et al. (1975:1) noted the limited success of educational change efforts. McLaughlin (1976:167) suggested that the problem was pervasive: "most observers believe that educational innovations generally have failed to meet their objectives."

Evaluative efforts directed at the outcomes of educational innovations have shed little light on the problem. Berman and McLaughlin (1976:347) "identified profound conceptual and methodological problems" associated with much of this type of research, making the dismal suggestion that the results of such efforts "have raised questions about prospects for educational reform."

From a more optimistic perspective, Loucks et al. (1975:1) suggested that the problem may lie with the lack of knowledge about and attention to the process of change and the factors affecting change rather than with the quality of the innovation being attempted. As Berman and McLaughlin (1976:349) suggested, it is important to first have a systematic understanding of the process underlying an educational change before assessment of its effectiveness should be attempted.

The following review will explore selected theory and research associated with educational change with reference to two predominant change perspectives. Following a definition of the concept of change, the process of change will be addressed. Factors proposed in the literature as affecting change are then briefly described.

What Is Educational Change?

Although many authors address the subject of educational innovation or change, few attempt to define it; many use the words "change" and "innovation" synonymously. As Hodge and Anthony (1984:484) defined the concept, change represents an "alteration in the status quo." The factors causing change may be exogenous (from the organization's external environment) or endogenous (from within the organization). Although much change is spontaneous, the assumption underlying the literature on change suggested that the associated process can be managed to some extent.

Leithwood and Montgomery (1982:309), provided an outcome-oriented perspective on change, suggesting that change (synonymously termed "program improvement") can be defined as "the realization of valued outcomes by students." They defined the change process as "a complex form of individual and organizational learning, resocialization, and growth."

Innovation, on the other hand, suggests a new idea, method, or process. Loucks et al. (1975:iv) reflected this perspective in their definition of innovation: "any process, product, program or idea that is the focus of a change effort, as seen by the users."

Fullan (1982:33) explored the complexity of the change process, suggesting that to understand change, one must describe and understand the dynamic interrelationships among various dimensions of the phenomenon. Leithwood (1981:25) expressed concern about reference to the change process as a universal set of stages, suggesting that such an approach is insensitive to differences among innovations. He suggested that it is important to view a change or innovation in terms of each of its components and from this perspective, an understanding of stages of development of each of the components will emerge. Before the complexities of these topics can be pursued, however, it is necessary to focus on the change process itself and two prominent change perspectives.

The Change Process

Two areas of literature on the change process have been selectively reviewed to provide a broad basis of understanding: that relating to organizational change and to educational change, per se. Although detailed analysis of the stages involved in organizational change is beyond the scope of this chapter, several perspectives on the process are presented for consideration. In addition, two "ideal-type" orientations towards change are explored in more depth.

Descriptions of the stages of organizational change evident in the literature vary in specificity. Kurt Lewin (1951:228), one of the early theorists on organizational change, described a three-step process: unfreezing, moving, and refreezing. At the other end of a specificity continuum, Hodge and Anthony (1984:488), in a 12-step approach to planned change, exemplified a more complex approach.

Arising from the Rand Corporation Change Agent Studies as reported by Berman and McLaughlin (1976) was the identification of the three-stage change process that has been commonly accepted in the literature pertaining to educational change: the initiation phase, consisting of processes leading up to and including the decision to proceed with a change; the implementation phase, defined by Berman and McLaughlin (1976:352) as the point at which the change is initiated into practice; and the incorporation phase, representing the extent to which the different practice becomes part of the ongoing activities and is thus maintained. Definition and exploration of each of these phases assists in the understanding of what educational innovation and change is thought to involve.

Initiation. Initiation--synonymously termed "mobilization" or "adoption"--has been described by Berman and McLaughlin (1976:349) as the stage during which decision makers conceive and formulate plans for change, seek resources, and decide which innovation to select or support. According to Fullan (1982:39), the phase of initiation consists of processes leading up to and including the decision to proceed with a change. Berman and McLaughlin (1976:351) identified two such processes: opportunism and problem solving. These two designations arose as "ideal types" in the change agent studies conducted by Rand Corporation as commissioned by the United States Office of Education.

Opportunism, as described by Berman and McLaughlin (1976:351), represented a response to available funds and, in the change agent studies, was often characterized by lack of interest and commitment on the part of individuals involved in the change. Problem solving, on the other hand, was viewed as a response to locally identified needs and was typically characterized by local commitment.

Fullan (1982:42) generated, from recent literature, a summary list of factors spurring the initiation of change projects. Although exploration of each of these factors is peripheral to this research, the ten factors are identified for consideration:

1. existence and quality of innovations,
2. access to information,
3. advocacy from central administrators,
4. teacher pressure/support,
5. consultants and change agents,
6. community pressure/support/apathy/opposition,
7. availability of federal or other funds,
8. new central legislation or policy,
9. problem-solving incentives for adoption, and
10. bureaucratic incentives for adoption.

In cross-site analysis of 12 case studies of the adoption process, Crandall et al. (cited in Fullan 1982:52) addressed three aspects of the adoption process: reasons for adoption, the role of career incentives, and the time-lines associated with (a) awareness of an innovation to its adoption and (b) adoption to start-up of the implementation. Whereas administrators cited "improvement in classroom instruction" as the most frequent reason for adoption, teachers identified "administrative pressure" most frequently. The impact of career incentives on initiation was not clear. Although median lengths of time from awareness to adoption and adoption to start-up were 9.5 months and 3.5 months, respectively, there appeared to be fewer problems associated with programs taking longer periods of time from adoption to start-up of the innovation.

Notably, the period identified by Crandall et al. (cited in Fullan 1982:53) as "adoption to start-up" of the innovation received little attention in the literature, yet the importance of this planning period was stressed; it is at this point in the process when the foundation is laid for the implementation and subsequent continuation of the innovation.

Implementation. Berman and McLaughlin (1976:352) defined implementation as "an organizational process that implies interactions between a project and its setting;" the point at which the project confronts the reality of the institutional setting and project plans are translated into practice. Fullan and Pomfret (1977:336) reflected the same perspective, suggesting that implementation refers to the actual use of an innovation in practice. They proceeded to distinguish between planned used of the innovation and its actual use.

Four potential types of implementation processes were identified by Berman and McLaughlin (1976:352). Each addressed adaptation on the part of two factors: the institutional setting and the project design. Mutual adaptation, viewed as enhancing the innovation process and its success and continuation, represented adaptation on the part of both the project design and the institutional setting. Non-implementation, on the other hand, was a lack of change--neither factor adapts. In a situation where the innovative design was adapted but there was no evidence of change in the project participants, co-optation occured; an unmodified project producing changes in participant behavior was termed "technological learning"--a phenomenon not observed by Berman and McLaughlin (1976:353) in practice.

A number of factors were identified as affecting the implementation of an innovation. Fullan (1982:55) divided these variables into four main distinct but interrelated categories: attributes of the change itself, characteristics of the district, characteristics of the school, and factors external to the local system. Factors influencing implementation of an innovation will be addressed in more detail following a description of the incorporation phase of the change process.

Incorporation. Incorporation (also termed "continuation", "routinization" or "institutionalization"), as described by Berman and McLaughlin (1976:350), represents the extent to which the innovative practice becomes part of the ongoing activities and is thus maintained. Berman and McLaughlin (1976:354) specified two different levels of incorporation--classroom or instructional and administrative (financial, organizational and political)--suggesting that both are important facets associated with the continuation of an innovation in a particular setting. It is feasible that the decision to continue a project may be made officially but the innovation may not be used by teachers. Or the project may be abandoned at the district level while the teachers have already incorporated some associated features.

Berman and McLaughlin (1978:183), in an investigation of a number of change situations, reported that the decision to incorporate an innovation was not necessarily associated with implementation success. In fact, only a minority of projects that they observed as being successfully implemented were deemed "institutionalized." Miles, Fullan, and Taylor (1978:40) reported similar findings and suggested that many of the factors contributing to implementation success also affected incorporation of the innovation.

Leithwood (1981:25) expressed concern about reference to the change process as a universal set of stages, suggesting that such an approach is insensitive to differences among innovations. He suggested that it is important to view the innovation in terms of each of its components and from this perspective, an understanding of stages of development of each of the components will emerge. Leithwood (1981:25) referred to the utility of the Concerns-Based Adaptation Model (as described by Hall 1979, for example) whereby stages between current practices and desired endpoints are identified; each stage being defined by a particular set of teacher concerns. By superimposing this framework on the specific dimensions or components of a particular innovation, a clearer picture of the process of change should emerge. This model is pursued in subsequent discussion.

Before focusing on specific factors affecting change, it is important to distinguish between two change perspectives which were evident in much of the educational change literature: the programmed and adaptive change perspectives.

Change Perspectives

Although the two change perspectives appear at first glance to be diametrically opposed--to be at opposite ends of a change continuum--it is important to remember that the authors who have observed and describe these perspectives have tended to focus on ideal types or pure forms.

According to Fullan (1982:31), the programmed orientation (also termed the fidelity approach) is based on the assumption that an already developed innovation exists and the task involved in change is to implement the innovation faithfully. The adaptive approach, on the other hand, stresses that change often is (and should be) a result of adaptations and decisions taken by users as they work with a particular innovation.

Berman (1980:208) provided a comprehensive comparison of both perspectives. His analysis has been reduced into table form for ease of comparison. (See Table 2.1.) The dimensions for comparison were six: the features of the approach, its aim, possible sources of implementation problems, the role of evaluation, the role of implementation studies, and organizational parameters that signify which approach is most suitable.

Programmed change. The aim of programmed implementation of change, according to Berman (1980:210), is to make the relationship between the planned innovation and the output "implementation proof." To accomplish this goal, the approach generates a well specified plan with clear and detailed objectives. There is limited participation in policy making and minimum discretion for all levels of implementers. Contingencies are anticipated but it is expected that the implementation program will be automatically executed.

Implementation problems are to be expected if goals are ambiguous; misunderstanding, confusion, and value conflict will be evident. Additionally, too many actors with overlapping authority create problems in implementation; the approach advocates clean lines of responsibility.

Table 2.1

Comparison of Programmed and Adaptive Perspectives

(Ideal Types)

	PROGRAMMED	ADAPTIVE

Features of approach	-well specified plan
	-clear, detailed objectives
	-clean lines of responsibility
	-limited participation in policy making
	-anticipated contingencies
	-minimum discretion for all levels of implementers
	-automatically executed implementation program
		-allows policy to be modified, specified and revised (adapted) according to needs of institutional setting
		-outcome neither automatic nor assured
		-seeks general/tacit/vague agreement on goals/means
		-active participation of relevant actors to:
		  -enhance problem solving by involving diverse, informed participants
		  -ameliorate problems of "group think," management bias, or lack of communication
		  -develop individual sense of ownership

Sources of implementation problems	-ambiguity in goals resulting in or caused by misunderstanding, confusion, or value conflict -too many actors with overlapping authority -implementers' resistence, ineffectualness, or inefficiency	-overspecification and rigidity of goals -failure to engage relevant actors in decision making -excessive control of deliverers
Aim	-to make the relationship between policy decision and output "implementation proof"	-to establish acceptable rules that would allow multiple participants to bargain and compromise during the course of implementation -to obtain clarity about policy

Table 2.1 (continued)

	PROGRAMMED	ADAPTIVE
Role of evaluation	-checks on fidelity of implementation -quantifiable outcomes compared to explicitly identified objectives	-to further adaptation -to provide information about adaptive processes and outcomes -to help decide on the specifics of policy
Role of implementation studies	-to determine the degree of implementation in terms of the extent to which actual use of an innovation corresponds to intended or planned use	-to analyze the complexities of the change process vis-a-vis how innovation became developed/changed during the process of implementation
Situational parameters		
-scope of change	-incremental change in behavior	-major change in behavior of participants
-technology/ theory	-certain within risk -policy's technology/ theory relatively valid	-uncertain
-conflict over goals/means	-low; general agreement on goals and means	-high
-structure of of setting	-tightly coupled	-loosely coupled
-stability of environment	-stable	-unstable

Implementers' resistance, ineffectualness, or inefficiency also detract from the process.

Berman (1980:213) identified five situational parameters that suggest that the use of a programmed approach for change may be the most suitable plan. When the scope of the change requires an incremental change in behavior, the policy's technology or theory is relatively valid, and when there is a low level of conflict and general agreement on goals and means, the programmed approach should be considered. The structure of the setting should be tightly coupled and the environment stable. The presence of these factors would suggest that the programmed approach would be most effective.

The programmed approach has been criticized because it does not accommodate values, goals, and situational characteristics of the implementing organization. As a result, adopting groups may fail to internalize the features of the innovation; the result is an ineffective implementation. It was suggested by Fullan (1981:205) that the programmed approach may be appropriate for simple, detailed, basic skills but that, in situations of complex implementation, it may prove ineffective.

Adaptive change. The adaptive approach to change holds that the change process can be improved by processes that enable initial plans to be adapted to unfolding events and decisions in the change situation. The aim of this approach, according to Berman (1980:211) is to establish acceptable rules allowing multiple participants to bargain and compromise during the course of change. The policy is thus modified, specified and revised (adapted) according to the needs of the institutional setting. Outcomes are neither automatic nor assured and active participation by all relevant actors is expected. Problems in adaptive implementation occur when there is overspecification and rigidity of goals, excessive control of deliverers, or failure to engage relevant actors in the decision making.

Berman (1980:214) identified specific situational parameters in which the adaptive approach would be most effective. If the scope of the change involves a major change in behavior of participants, if the technology or theory is uncertain, or if there is high conflict over goals and means, the adaptive orientation to implementation would be the preferred approach. In addition, an unstable environment and loosely coupled structure in the setting would suggest the adaptive approach.

Berman and McLaughlin (1977:5), after examination of almost 300 change projects, reported that the primary feature of effective implementation was "mutual adaptation" in which the project was adapted to the institutional context and the organizational patterns were, in turn, adapted to meet the demands of the project. The more complex and larger the scope of the change, the more extensive the extent of mutual adaptation that was observed.

Adaptive implementation has been criticized for several reasons. Inherent in the approach is a lack of criteria for what constitutes the innovation. It is difficult to assess the effectiveness of the innovation since implementation criteria vary from situation to situation creating difficulty in interpreting the variations which occur. The question raised by Fullan (1981:203) remains unanswered:

"Is adaptation simply a way of co-opting the innovation to the point where it no longer resembles the original intention?"

Contingent analysis of change. Although much of the literature on the two change perspectives advocated one or the other approaches, Berman (1980:214) suggested that, for change to be effective, the particular orientation--programmed or adaptive--should be matched to the features of a given change situation. Thus, if the organizational situation is structured in nature, the programmed perspective would be the most appropriate approach to implementation; if the situation is unstructured, the adaptive approach is called for.

Additional complexity is evident in the nature of the two perspectives. For example, Berman (1980:214) cautioned that

> when conditions associated with the programmed approach are replaced by any of those associated with the adaptive perspective, elements of adaptive implementation strategies would be needed to cope with anticipated implementation problems.

He proceeded to note that many situations call for a combination of programmed and adaptive components. In fact, one strategy may be appropriate during one phase of the change process while another strategy might be suitable for other stages. It may also be appropriate to vary implementation strategies for different levels of the organization.

Berman (1980:206) provided what he called a "fundamental truth" about change as it relates to the two orientations:

> There is no universally best way to implement. Either programmed or adaptive implementation can be effective if applied to the appropriate policy situation, but a mismatch between approach and situation aggravates the very implementation problems these approaches seek to overcome.

Berman (1980:206) admonished researchers and decision makers to

> dispense with the image that implementation must be uniform for all policy situations, invariable over time, and homogeneous across organizational levels . . . search for matching, mixing, and switching strategies to improve policy performance.

Associated with these change perspectives are dilemmas and issues related to the measurement and evaluation of change and the resultant implementation. Although the objectives of implementation studies and the role of evaluation differ according to orientation, the dimensions assessed and the techniques used tend to be applicable to any perspective. Before the topic of the measurement and evaluation of implementation and change is addressed, however, a brief exploration of the factors affecting change will be conducted.

Factors Affecting Change

Approaches to discussion of factors affecting the change process vary in focus. While some authors highlight categories of factors, as do Berman and McLaughlin (1976), others focus on the three phases and the factors viewed as peculiar to each (McLaughlin and Marsh, 1978 and Fullan, 1982, for example). It is obvious that there is much overlap and interrelation no matter how the factors are segregated and it appears that any division is arbitrary and aimed at ease of presentation. Fullan (1981:78) pointed to the logic and interrelatedness of the change process and its associated influencing factors when he specified that factors affecting adoption and implementation influence the degree of implementation, and subsequently attitudes of individuals towards the innovation. In turn, the quality of the impact is affected, thereby influencing the likelihood of continuation and ultimately individuals' attitudes towards school improvement, in general.

The approach taken in this chapter for discussion of the factors influencing change contends that, although a few factors may influence one stage exclusively, most ultimately affect the change process and the resulting innovation as a whole. Therefore, the factors are not designated as applying to one particular phase unless the research cited has focused on a specific segment of the process.

Factors that were traditionally identified as influencing the process of change have been called into question by research findings generated over the past decade. Rogers and Shoemaker (1962:124) identified the following factors from the earlier literature thought to influence adoption of an innovation:

1. ease of explanation and communication to others,
2. possibility of a trial on a partial or limited basis,
3. ease of use,
4. congruence with existing values, and
5. obvious superiority over existing practices.

McLaughlin (1976:168) and her colleagues in the Rand Corporation change agent studies of educational reform efforts demonstrated that implemenation strategy (rather than educational treatment), level of resources, and type of funding appeared responsible for the success of the change process. Arising from their research were four clusters of broad variables seen as crucial to successful implementation and continuation of an innovative project: institutional motivation, project implementation strategies, institutional leadership, and teacher characteristics. Each is addressed in the following discussion.

Institutional motivation. Institutional motivation constitutes the receptivity of the institutional setting in terms of interest, commitment, and support. According to McLaughlin and Marsh (1978:72), the change agent studies suggested that a major element, teacher commitment, was influenced by motivation of upper level managers (a signal as to how seriously the project should be taken), project planning strategies (collaborative planning appeared to be necessary for success), and the scope of the proposed project. Contrary to early thinking regarding factors affecting success of an innovative project, the change agent studies demonstrated that the more effort required by teachers, the greater the overall change in teaching style, the higher the proportion of commitment. Although institutional motivation was a necessary condition for success, McLaughlin (1976:172) cautioned that it was not a sufficient condition.

Project implementation strategies. McLaughlin and Marsh (1978:76) reported that two variables--staff-training activities and training-support activities--accounted for a substantial portion of the variation in project success and continuation in the change agent studies. Staff-training activities involved skill-specific activities, that is, instruction in how to carry out the innovation. Alone, these activities influenced outcomes only in the short run. Staff-support activities such as classroom assistance by resource personnel, project meetings, and participative decision making, demonstrated a major positive effect on longer-term project outcomes.

Other factors demonstrating a major impact on implementation were goal specificity and conceptual clarity, both being achieved through the process of mutual adaptation--the modification of project design vis-à-vis changes in the local institutional setting and personnel occurring during the course of implementation. McLaughlin and Marsh (1978:80) emphasized the importance of teacher participation in decision making; not only were teachers in a better position to identify problems and make recommendations, participative decision making enhanced the development of a "sense of ownership" of the innovation.

Another planning strategy closely associated with the affective perspective of teacher attitudes was local material development. As McLaughlin (1976:172) pointed out, such activity provided a sense of involvement and the opportunity to learn by doing; it broke down the traditional isolation of the teacher and provided participants with a sense of professionalism and cooperation.

Institutional leadership. The change agent studies, as reported by McLaughlin and Marsh (1978:83), demonstrated that different administrative personnel affect the change process differently. Whereas an effective project director enhanced the implementation of the innovation, the support and interest of central office staff and the support and involvement of the principal enhanced continuation of the project. Supportive school climate was also an important influence on continuation.

It was interesting to note that most of the research relating to the role of the administrator in the change process focused on school principals. There was little information regarding who or what influenced their actions and choices related to change. A study by Orlich, Ruff, and Hansen (1976:621) of elementary school principals and factors leading to their identification of curricular innovations demonstrated that publishers, curriculum coordinators and other district resources, the professional literature, and conferences and workshops were of primary importance as sources of innovative ideas.

Teacher characteristics. McLaughlin and Marsh (1978:84) reported a number of interesting findings related to teacher characteristics and their effect on the process of change. Years of experience was an important variable. Number of years of experience was negatively related to all dependent variables except continuation, where no relationship was observed. Verbal ability was significantly related to total improvement in student performance.

A factor that demonstrated a stong positive relationship to all project outcomes was termed "sense of efficacy" by McLaughlin and Marsh (1978:84). Teachers' attitudes of professional competence and the belief that the innovation would enhance student learning proved to be a major influence on teacher support of the project. This finding was observed by Leithwood and MacDonald (1981:115) as well. Their research on curriculum choices of teachers uncovered the importance of "providing convincing evidence of student interest and learning." Teachers were attracted to the changes they perceived as likely to enhance student achievement.

Obviously, factors which directly affect the process of change in one phase will have at least an indirect effect on other aspects of the process. Berman and McLaughlin (1978:166-83) presented a number of factors inhibiting continuation in the projects they observed: lack of interest on the part of teachers, inability to fund the project, lack of money for staff development, and lack of interest and support from central office. Fullan (1982:77) specified two important factors associated with continuation--the degree of implementation and outcomes in terms of student progress, both products of preceding events in the process.

One factor not yet mentioned but very important to all phases of the change process was identified by Fullan (1982:77)--staff and administrative turnover. The fact that personnel are continuously being introduced to an innovative program, even though the project may have been institutionalized for an extensive period of time, points to the continuity of the process; it is non-linear and never ending. Factors which, at one point in time, enhanced the implementation of the innovation cannot be neglected once it is in place. They must become an integral part of the day-to-day functioning of the organization.

Discussion now turns to the measurement and evaluation of implementation and change.

Measuring and Evaluating Implementation

Implementation was identified earlier in this chapter as the second phase in the process of change, the point at which the project is put into practice in the institutional setting. Fullan (1981:196) explored the nature of implementation. He specified that implementation is a complex phenomenon--its process often being misunderstood and underestimated. Implementation must be distinguished from adoption or the institutional decision to proceed with a particular innovation. In addition, several major dimensions are at stake in any implementation effort. Lastly, Fullan (1981:196) emphasized that implementation is not static. The status of implementation of an innovation at one point in time is not necessarily what will be evident at another point in time. As Fullan (1981:195) noted, as research on the implementation of educational change has become increasingly sophisticated and cumulative, the complex and elusive nature of implementation is becoming more evident.

In their review of implementation studies, Fullan and Pomfret (1977:361) noted that all studies reviewed were concerned with determining the impact of the attempted change upon the user system or selected components of it. They proceeded to identify two major issues pervading the literature and research on the measurement of implementation: the associated conceptual criteria and the methods of assessing implementation.

Conceptualization. Associated with conceptualization of the research on the implementation of change are three considerations: the assumed change perspective, the components or dimensions of the innovation, and the level of implementation of the innovation.

1. Perspective. The role of implementation studies and evaluation of change varies depending upon the particular orientation--programmed

or adaptive--held by the actors; different assumptions and interpretations are associated with each. As Fullan and Pomfret (1977:140) suggested, investigation of implementation from a programmed perspective would be conducted to determine the degree of implementation of an innovation in terms of the extent to which actual use of the innovation corresponds with intended or planned use; in evaluation, quantifiable outcomes would be compared to explicitly identified objectives. From the adaptive point of view, an implementation study would seek to analyze the complexities of the change process vis-à-vis how the innovation became adapted during the process of implementation. Evaluation would be conducted to further adaptation and to help decide on the specifics of policy. Berman (1981:224) noted, in this regard, that the perspectives may be more a function of the researcher's theoretical orientation than the factors present in the situation.

2. Dimensions. Fullan (1981:199), referring to curriculum implementation, pointed out that implementation involves changes or modifications along several different dimensions and that these changes can vary independently. Inherent in any investigation of implementation are the components of the change selected by the researchers to be the variables under considerations. Fullan and Pomfret (1977:361) identified five components evident in their review of 15 studies on implementation of curriculum innovations. These were

1. subject matter and materials,
2. organizational structure,
3. behavior,
4. knowledge and understanding, and
5. value internalization.

In a later document (Fullan, 1981:196), the dimensions were reduced to four major factors:

1. objectives,
2. curriculum materials,
3. philosophical conceptions, and
4. role and behavioral change.

Fullan (1981:197) observed that a great deal of emphasis was placed on materials production and definition of objectives but there was little concern for new conceptions of education and teaching strategies. He proceeded to hypothesize that the former is more tangible and easier to develop while the latter, involving social and personal implications for change, is more difficult to achieve.

In a review of curriculum theory, research, and practice, Leithwood (1981:33) described eight dimensions of curriculum innovation:

1. beliefs and assumptions underlying curriculum,
2. objectives,
3. student entry behaviors,
4. content,
5. instructional materials,
6. teaching strategies,
7. learning experiences, and
8. assessment tools and procedures.

Leithwood (1981:25) stressed the importance of looking at each of the dimensions of an innovation, not only in attempting to assess the effectiveness of implementation but throughout the process of change. Individual consideration of each of the dimensions would contribute to the sensitivity of an assessment and accommodate differences among innovations.

Although Berman and McLaughlin (1976:350) suggested that student outcomes are the ultimate measure of the effectiveness of an educational innovation, they stressed the importance of measuring effectiveness of implementation before examining potential student impacts. In the Rand Corporation Change Agent Studies, as reported by McLaughlin and Marsh (1978:71), output and process dimensions were included. Indicators of the outcomes of the innovation were considered to be change in teacher practices, pupil growth, and retention of teacher change; process variables included teacher commitment and involvement, staff reward structures, skills training and classroom follow up, and the role of the principal and school climate in teacher growth and maintenance of change. Measures of the effectiveness of the project's implementation were its success (as perceived by participants), change in behavior, fidelity of the implementation, and continuation beyond incentive funding.

Miles (1979:9) provided another perspective regarding the success of a change initiative. He defined "success" in terms of reasonable congruence with original vision, continued problem coping ability, satisfaction of stakeholders, and actual achievement of education outcomes.

It was evident that there are a number of different perspectives on the appropriate indicators of success of an innovation in terms of the dimensions to be considered and the criteria for "success." As Berman (1981:274) reminded, "outcomes of educational change tend to be context dependent and time dependent"--two additional factors that bear consideration.

3. Degree of implementation. An important and seemingly overriding concept that has not yet been dealt with is the degree of

implementation of an innovation. Scheirer and Rezmovic (1983:599) identified the pervading importance of the concept by suggesting that its consideration is "critical in order to derive valid conclusions from both outcome and process studies of innovations." They subsequently articulated the following admonition:

> To correctly attribute the observed outcome of a social program to the intervention, the researcher should have empirical evidence on the extent to which program components were implemented. Without such evidence, researchers may erroneously conclude that an intervention was ineffective when, in fact, treatment implementation was inadequate to afford a valid test of the program.

Berman and McLaughlin (1976:347) related the concept of degree of implementation to some of the conceptual and methodological problems associated with educational change studies. They proceeded to point out that "the adoption of an innovation cannot be assumed to provide an accurate forecast of its actual use." Hall and Loucks (1982:134) forwarded the same caution:

> [W]hen policies are implemented at the school level, their operational form is not necessarily congruent with the original intentions of the policy makers nor are the outcomes of the change necessarily those that were envisioned.

These concerns have led to the development of the body of theory and research related to the definition and measurement of the degree of implementation of an innovation to be described later in this document.

Measurement. The measurement methodology applied in studies of educational change appeared to be relevant irrespective of the perspective assumed or the dimensions under consideration. Two comprehensive reviews of implementation studies (Fullan and Pomfret, 1977 and Scheirer and Rezmovic, 1983) provided an overview of the main methods employed in such research undertakings.

Fullan and Pomfret (1977:365) reviewed 15 studies focusing on the implementation of educational innovations. The main data collection methods observed in these studies were observation techniques, focused interviews, questionnaires, and content analysis of key documents and specific curriculum plans. Scheirer and Rezmovic (1983:605) assessed 74 implementation studies and identified evidence of six methods: ethnographic observations, interview and questionnaires, institutional records, behavioral observation, unobtrusive indicators, and the infrequent use of the technical measures of equipment performance and output. Interestingly, nearly three-quarters of the studies used more than one technique but only 38 per cent actually compared the findings generated by the different measures. Of those studies where measures were compared, there were mixed results regarding intermethod consistency.

Whatever the methods selected to measure implementation of an innovation, the adequacy of the measuring tools must be assessed. Scheirer and Rezmovic (1983:609) identified five criteria that enhance the confidence in the generated data.

1. Multiple measurement. Scheirer and Rezmovic (1983:610) claimed that

> the larger the number and variety of implementation measures used, the greater the likelihood that method-specific biases will be detectable, that multiple components of the innovations will be examined, and that implementation can be validly assessed.

Although multiple measures were frequently observed in the studies reviewed by Scheirer and Rezmovic (1983:612), they identified infrequent attempts to "distill" from the data an overall picture of implementation.

2. Operational definition. Kerlinger (1979:41) stated that the operational definition of a variable specifies the activities or "operations" necessary to measure it. It serves to connect the empirical observations to that which is being measured. The importance of a clear explanation of the focal innovation components and processes was viewed by Scheirer and Rezmovic (1983:613) as an integral feature of a credible measurement tool.

3. Reliability. An examination of the reliability (or consistency) of the measurement was addressed in about half of the studies reviewed by Scheirer and Rezmovic (1983:613). Identified sources of unreliability were such factors as

> inconsistent data in institutional records, ambiguous definition and specification of innovation components, erratically changing behavior of implementors from one day to the next, and inadequately trained observers (Scheirer and Rezmovic (1983:614).

4. Validity. Kerlinger (1979:138) stated that "validity is often defined by asking the question: Are you measuring what you think you are measuring?" Only 27 per cent of the studies reviewed by Scheirer and Rezmovic (1983:616) addressed the question of validity; 15 per cent of the studies were rated as having well established validity.

5. Sampling. Appropriate sampling strategy was viewed by Scheirer and Rezmovic (1983:617) as an important measurement criterion because of its strong influence on the adequacy of the data collected by any

measuring technique. Serious deficiencies in generalizability of findings were suggested since only one-quarter of the studies used random or full census sampling.

Another issue associated with measurement in implementation studies pertained to the sources of information. As Fullan and Pomfret (1977:362) pointed out, "some theorists equate behavioral change with organizational change relying exclusively upon behavioral indicators in their degree of implementation measures." They further argued that it is the students' interpretation of teacher behavior that determines whether the innovation is being implemented. From another perspective, Hall and Loucks (1977:265) suggested that the primary unit of adoption of an educational innovation is the individual teacher: "The only way to know whether and how an innovation is being used is to assess each individual's use directly." Both suggestions have influenced the design of this research project.

The pervasive importance of the concept of "degree of implementation" has surfaced in the preceding discussion. Closer examination of one conceptualization of this phenomenon follows.

The Concerns-Based Adoption Model

Since 1972, educational researchers at the Research and Development Center for Teacher Education at the University of Texas at Austin have conducted research into the implementation of an innovation that has culminated in the Concerns-Based Adoption Model--the conceptual basis for their ongoing research. The model describes three principal dimensions intended to assess the status of an innovation in a particular institution. These dimensions are the concepts of Stages of Concern, Levels of Use, and Innovation Configurations. Although Levels of Use was of particular interest in this research project, the other two dimensions are briefly described before a more in-depth treatment of the Levels of Use dimension is provided.

Stages of Concern. A succinct description of the Stages of Concern dimension of the Concerns-Based Adoption Model was provided by Loucks et al. (1975:1):

> The Stages of Concern dimension focuses on the feelings, thoughts, and information needs of the innovation "user." Individuals appear to be more self-concerned when they first find out about an innovation, wondering what it will require of them, how their roles must change. As these concerns are resolved, more "task"-oriented concerns emerge. Questions about what materials are needed daily and how to schedule time more effectively are typical. Later concerns focus on how the innovation affects students, how to combine efforts or even replace the innovation to enhance student learning. The CBAM describes seven Stages of Concern that reflect this progression.

Innovation Configurations. Innovation Configurations were defined by Heck, Stiegelbauer, Hall, and Loucks (1981:1) as the "operational patterns of the innovation that result from implementation by different individuals in different contexts." The assessment of Innovation Configurations actually represents a complex process by which innovation components and configurations are identified and measured. According to Heck et al. (1981:6), the concept of Innovation Configurations addresses the questions "What is the innovation?" and "How is it being used?"

Levels of Use. As described by Hall (1979:9), the Levels of Use concept focuses on the behaviors of individuals as they encounter and use an innovation. Eight distinct levels have been identified and each level has been operationally defined and decisions points established. This conceptualization is presented in Appendix A.

The focused interview is used to assess Levels of Use. It is a generic interview schedule consisting of a branching technique of open-ended questions and follow-up adaptive probes. Hall (1979:11) suggested that the interview actually takes on the form of a casual conversation for the interviewees related to what they are doing and not doing with the innovation. Interviewers are trained to collect information and descriptions of behaviors related to the use of the innovation. Behaviors are then rated according to the operational definitions and assessment of Level of Use.

The concept of Levels of Use was an integral component of the research at hand and represented one manner in which the degree of implementation of the focal innovation was assessed. As mentioned previously, the focal innovation in this research was the use of a nursing model as a conceptual basis for curriculum development. Discussion now turns to an exploration of nursing models.

Nursing Models and the Curriculum

The focal innovation in this research project pertained to the decision to base a nursing curriculum on one conceptual description of nursing (synonymously termed "nursing model"). Before addressing the implications of using a nursing model as the conceptual basis for a nursing program, it is necessary to explore the meaning of the term "model" and to establish a definition for the concept of "nursing model".

What Is a Nursing Model?

Before focusing on nursing models in particular, it is beneficial to consider some definitions of "model" that are prevalent in the literature. There was evidence of broad interpretation of the term with some descriptions being very complex in nature while others were fairly straight forward.

Kaplan (1964:263) defined a model as any device that is useful in understanding the phenomenon it represents. He proceeded to describe five kinds of models:

1. Mathematical. Any theory more strictly formulated than is characteristic of the literary, academic or eristic cognitive styles; one presented with mathematic exactness and logical rigor.
2. Semantical. A conceptual analogue to some subject matter.
3. Physical. A nonlinguistic system analogous to some other being studied.
4. Formal. A model of a theory which presents the latter as a structure of uninterpreted symbols.
5. Interpretive. Providing an interpretation for a formal theory.

Turning to the nursing literature, Polit and Hungler (1987:85) described a model as "a symbolic representation of phenomena . . . [attempting] to represent reality with minimal use of words." According to Roy (1984:8), a model is "a description or analogy used to help visualize something that cannot be directly observed." Growing out of Roy's description of a model was the definition of a nursing model as provided by Andrews and Roy (1986:4): "A model of nursing can be defined as a representation of the major parts of nursing and how they relate to one another."

Although nursing models have been evident in scholarly literature since the time of Florence Nightingale (1859), development and refinement of published nursing models has taken place primarily over the past two decades. At this point in time, a number of nursing models are described in the literature. Exploration of some of these can be found in Riehl and Roy (1980).

According to Andrews and Roy (1986:4), the major writers of nursing models describe four concepts that are considered to be the essential parts of nursing: (1) the person, (2) the environment, (3) nursing activities, and (4) health. Commonalities were evident in the manner in which nursing theorists described these elements. The following quotation from Andrews and Roy (1986:4) details these commonalities:

> Nursing views persons as holistic and developing beings with the processes and capacity for thinking, feeling, reflecting, and choosing. Human behavior has pattern and meaning. Persons respond to and act upon everything that is within and around them. The term environment is used to describe the world within and around the person. Nursing acts to enhance the interaction of the person within this environment. The goal is to promote growth and meaningful life for the individual in harmony with his or her social and physical environment. In this way nursing promotes health. Health, then, is a function of human and environmental patterns that enhance one another and that express full life potential for the person.

It was necessary to delimit the investigation of curricular use of nursing models to the application of one particular model in the educational setting. The researcher's previous experience with the model and its extensive application in nursing educational settings across North America influenced the selection of the Roy Adaptation Model as the focal innovation in this study. Description of the key elements of this model follows.

The Roy Adaptation Model

The Roy Adaptation Model is considered to be one of the most highly developed and widely used conceptual descriptions of nursing. Since its initial development by Sister Roy in the late 1960s, nurses in education and practice settings have helped in the clarification, refinement, and expansion of the model and thus have contributed to its present level of sophistication.

One particular source (Andrews and Roy, 1986) highlighted the essential elements of the model and provided an overview and description of the key concepts. Andrews and Roy (1986:6) identified the four major concepts associated with nursing models in general. Within the Roy Model, these four major concepts are described as follows:

> Person. An adaptive system with regulator and cognator mechanisms that act through the four adaptive modes (physiological, self-concept, role function, interdependence) to produce adaptive responses to the changing world within and around (Andrews and Roy, 1986:7).
>
> Environment. All conditions, circumstances, and influences surrounding and affecting the development and behavior of the person. These influencing factors are categorized as focal, contextual, and residual stimuli (Andrews and Roy, 1986:8).
>
> Health. A state and a process of being and becoming an integrated and whole person (Andrews and Roy, 1986:8).
>
> Nursing. A practice oriented, scientific discipline. The specific activities that distinguish nursing from other disciplines are collectively termed "the nursing process." Six steps have been identified in the nursing process according to the Roy Model:
> 1. assessment of behavior,
> 2. assessment of stimuli,
> 3. nursing diagnosis,
> 4. goal setting,
> 5. intervention, and
> 6. evaluation (Andrews and Roy, 1986:55).

As was mentioned in Chapter 1, nursing education programs have been plagued by problems such as lack of direction, repetition of content, and inconsistent approaches to the study of nursing. In an effort to eradicate such concerns, there has been an increasing commitment by nurse educators to base an educational curriculum on one nursing model. The implications of such a decision are explored in the ensuing discussion.

Curricular Use of a Nursing Model

In exploration of the use of a nursing model as a conceptual basis for curriculum development, it is important to distinguish between a conceptual framework for curriculum development and the place of a nursing model in such a scheme. Chater (1975:430), basing her work on that of noted curriculum theorists, articulated a three-component conceptual framework for curriculum development consisting of the setting (the social, economic, political, and cultural parameters), the student (descriptive characteristics of the learner including concepts and theories about motivation and learning), and the subject (the conceptual description of nursing). (See Figure 2.1.)

The importance and interrelationship of all three components is recognized in the development of each aspect of the nursing curriculum but, as Sister Callista Roy (1986) stated, "focus on the content becomes key in any curriculum development." For this reason, it is the operationalization of the subject component (the conceptualization of nursing) that is of particular interest in this research.

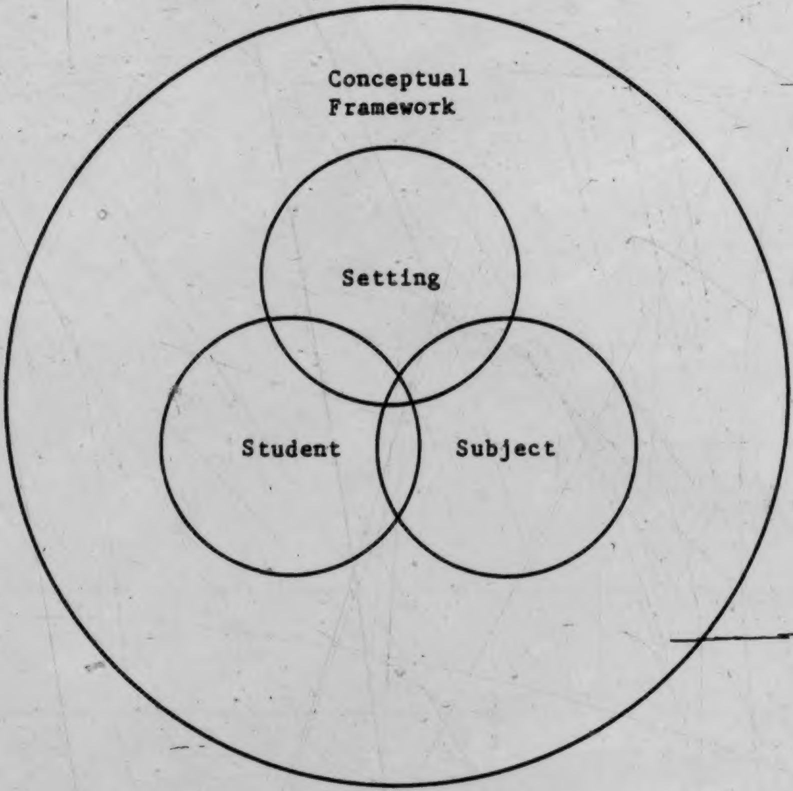
Conceptual
Framework
Setting
Student
Subject

Figure 2.1

Model for Conceptual Framework

for Curriculum Development

Source: Chater, S.S.
1975 "A conceptual framework for curriculum development"
Nursing Outlook 23 (7):430.

According to Stevens (1979:129), the conceptualization of nursing should appear in the curriculum in two ways: (1) as content to be taught, and (2) as an organizing structure for the curriculum, providing guidelines for the content of all other courses, clinical practice, assessment procedures, and for research. Smith (1982:117) suggested that the nursing model directly influences curriculum design, content, process, and product. As Roy (1986) stated, "The nursing model becomes the cornerstone on which all aspects of curriculum development, from philosophy to outcomes of the program, are based."

As an organizing structure for curriculum development, the nursing model accomplishes several objectives. According to Peterson (1977:29), it helps to clarify and organize nursing knowledge and provides a guideline for the selection of courses and learning experiences.[1] Chater (1975:43) suggested that the nursing model helps to achieve consistency in the presentation of nursing knowledge and subsequently assists students to integrate knowledge from diverse areas of study by providing a framework for the practice of nursing.

In addition, Flaskerud (1983:225) stated that the nursing model should be taught as the introductory nursing course. According to Peterson (1977:32), both faculty and students should be able to describe the nursing model and how it has shaped their program and their practice. In addition, curriculum revision must be conducted in light of the concepts associated with the nursing model.

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[1] Although Peterson (1977:25) used the term "conceptual framework" throughout her article, according to her own definition, she was addressing the construct referred to in this document as the "conceptual description of nursing" or the "nursing model."

In consideration of the above information, the following list of 16 factors was generated as dimensions of a curriculum that could potentially reflect the use of a nursing model as the conceptual basis for the program. In presentation of each factor, there is description and definition together with support for its inclusion.

Promotional materials. For purposes of this study, promotional materials were defined as those communications serving to portray the nursing program to the general public and prospective students. As stated by Sister Callista Roy (1986:2),

> One thing that's always interesting to me is to look at [the school's] promotional materials and see if there's any evidence [of the nursing model] from that level. I also respect the fact that, in speaking to general audiences, you don't necessarily have to use the terms that we use "in house" but I would think that promotional materials would reflect, somehow, the use of the model.

Examples of promotional materials would include such items as the calendar which is distributed to applicants and audio-visual presentations used for open house events and visits to high schools.

Philosophy. A curriculum philosophy is generally viewed as consisting of beliefs, concepts, and attitudes that guide activity in the particular area of endeavor. The philosophy statement in a nursing program typically addresses such issues as the nature of the individual, the nature of nursing, what is health, and the commitments of nursing education. As Chater (1975:429) pointed out, a philosophy serves as the value base from which the faculty select concepts for placement within a framework; "a philosophy is not an operationally defined set of concepts and propositions whose theses can be tested or demonstrated empirically." Peterson (1977:27) agreed with Chater by suggesting that the philosophy should be a statement of belief about concepts rather than extensive definitional and descriptive material. There must be compatibility between the philosophy underlying a nursing program and the framework that forms its conceptual basis.

Terminal objectives. The terminal objectives of a nursing curriculum represent the competencies that the individual should demonstrate upon graduation from the program. As Leithwood (1981:28) stated, they usually represent "the intended outcomes, for the student, of a curriculum as seen from the point of view of the developer or policy-maker." He proceeded to state:

> Taken as a whole, the general objectives of any curriculum can be seen as definitions of image(s) derived from the platform [philosophy and conceptual framework] of a developer or policy maker. More specific objectives have been promoted as useful for achieving that image by (a) providing direction to teaching and curriculum development; (b) providing guidance in evaluation; and (c) facilitating learning.

One of a number of criteria for good terminal curriculum objectives is that they are reflective of and compatible with the conceptual basis for the nursing program. As Peterson (1977:28) advocated, the nursing process described in the nursing model should be reflected in the application objectives among the terminal outcomes.

Curricular structure. The structure of a curriculum consists of the manner in which courses of study are organized and how content is integrated to facilitate the student's achievement of the terminal outcomes of the program. Peterson (1977:28) referred to the content of a nursing program in terms of major content areas or blocks, horizontal content threads, and horizontal process threads; all of which are influenced by the conceptual framework and particularly the nursing model. Major content areas tend to be dictated by factors such as the academic calendar and the availability of clinical facilities. The process threads are aspects that are emphasized throughout the curriculum with increasing expectation of student skill relative to the specified process, while content threads represent the manner in which minor content areas are integrated throughout the curriculum. Peterson (1977:30) contended that

> Examination of written curriculum materials indicates that the stated conceptual framework has, in fact, guided the basic structure of the curriculum, the threads, the choice of content.

Course content. Content, according to Leithwood (1981:32), "may be thought of as the specific facts, concepts, principles or generalizations, and thought systems included in the curriculum." Flaskerud (1983:226) suggested that the nursing model provides the guidelines for the content of all courses in the curriculum and gives direction for the selection of support courses.

Introductory nursing course. Stevens (1979:129) suggested that the nursing model appears in the curriculum in two ways: as an organizing structure for the curriculum and as content to be taught. Similarly, Flaskerud (1983:226) stated,

> To make students aware, the conceptual model must be taught as content. It becomes their first course in nursing: a general course based on the nursing model that explains what nurses do, or the object of nursing, and how they do it, or the process of nursing.

Examination of the introductory nursing course in a program should provide evidence of the specification of the nursing model and include as content the inherent key elements.

Patient assessment tools/procedures. Typically, students in a nursing program are taught specific procedures for patient assessment. Frequently these include the provision of an "assessment tool" as a device to cue the student relative to key aspects of the assessment.

According to Flaskerud (1983:226), the conceptual description of nursing should provide guidelines for the tool that will be used in clinical practice for the assessment of the patients' health status prior to determining required nursing care. It thus was expected that the key elements of the nursing model would be specified in patient assessment tools and procedures.

Classroom activities. Leithwood (1981:30) defined learning experiences as "the mental operations and physical acts engaged in by learners in response to a curriculum." He proceeded to state that they are "a product of interaction between the learner and his environment and mediate all influences on pupil achievement." It was expected that the concepts inherent in the model would be reflected in these classroom activities.

Clinical activities. Clinical experiences in the nursing program involve practical experiences in the care of individuals in a clinical area. Peterson (1977:32) stated that "clinical assignments, care plans, and conferences related to clinical activities [should] reflect the conceptual framework."

Assignments. Peterson (1977:32) suggested that true operationalization of a nursing model would include student written assignments. She advocated that "work sheets, projects, case studies, et cetera--[should] reflect the conceptual framework and its terminology."

Examinations. Leithwood (1981:29) referred to assessment tools and procedures as "any means to determine the extent to which students have achieved the objectives of a curriculum." As Stevens (1979:137) suggested, evidence of the influence of the nursing model should exist in assessment procedures. This would necessarily affect examinations.

Course bibliographies. It was Sister Callista Roy (1986) who suggested that another indication of true operationalization of a nursing model would exist in the bibliographies that are given to students as part of their course materials. It was expected that frequent reference would be made in nursing courses to resources relating directly to the particular nursing model and that the relevance of support courses to nursing practice would be demonstrated by reference to literature exploring or applying particular concepts addressed in the model.

Student evaluations. Stevens (1979:130) suggested that the nursing model should provide the criteria for student evaluation. This was reflective of the Leithwood (1981:29) reference to "any means to determine the extent to which students have achieved the objectives of a curriculum." Certainly, student evaluation would fit in this category.

Faculty evaluations. It is becoming commonplace for educational organizations to have procedures in place to address faculty performance. As Peterson (1977:32) stated, there must be evidence that faculty members use the nursing model in their teaching situations. Thus, it was expected that faculty use of the model would be addressed in performance appraisal.

Faculty. According to Peterson (1977:32), another indication of true operationalization of a nursing model would be that

> All faculty members can describe the conceptual framework and its application and there is evidence that they utilize it in their actual teaching. New faculty members are carefully oriented to the conceptual framework.

Stevens (1979:130) suggested that staff are obliged to have a clear and internally consistent concept of nursing before assuming the responsibility of conveying nursing to others.

The basis for the assessment of the extent to which faculty members implemented the nursing model in their teaching situation was the Levels of Use focused interview as designed by Loucks et al. (1976:21). By conducting Levels of Use interviews, it was possible to rate individuals according to eight operationally defined patterns of innovation use and in relation to behaviors exhibited in each of seven categories of performance. (See Appendix A.)

Students. Peterson (1977:32) suggested that students should be able to describe the nursing model, how it has shaped their program, and how they personally use it: "The students' views of the patient and plans of care [must be] consistent with the conceptual framework."

The above dimensions in combination with the essential elements of the nursing model and specified sources of information were combined to form the conceptual framework for this research as was presented in Chapter 1.

Summary

Selected literature forming the conceptual basis for this research has been addressed in this chapter. Initial discussion focused on theory and research associated with educational change and included an exploration of the meaning of education change and the process involved. Two major change perspectives were explored as were factors affecting change.

The focus then turned to specific literature relating to the measurement and evaluation of the implementation of innovations. Particular focus was on the Concerns-Based Adoption Model and the concept of Levels of Use.

Discussion then focused on the topic of nursing models and their application in nursing education curricula. Following exploration of the term "nursing model," brief specification of one selected nursing model, and exploration of the implications of using a nursing model as a conceptual basis for nursing programs, selected nursing literature was reviewed for dimensions of the curriculum which could evidence implementation of the model.

In the following chapter the research method is explored. The study was designed to assess the extent to which three schools of nursing using the Roy Adaptation Model have implemented it in their nursing curricula.

CHAPTER 3

Method

The design of this research was influenced primarily by the qualitative research paradigm. The objective of the research was description and analysis, the purpose being to describe and analyze the extent to which a particular educational innovation--the adoption of a nursing model as a conceptual basis for curriculum development--has been applied in different nursing programs.

The concept of "triangulation" as described by Webb et al. (1966:3) also influenced the study design. It was assumed that the incorporation of a number of independent measures to assess theoretically relevant components of the same phenomenon would enhance the likelihood that confidence can be placed in the results of the investigation. For this reason, interview, questionnaire, document analysis, and observation represent data collection techniques incorporated into the design.

The project took the form of a multi-site organizational study concentrating on the assessment of the degree of implementation of the selected nursing model in several nursing programs. The following description of the method will focus on the identification of the population and the sampling procedures, description of the design, exploration of the data collection techniques, and the treatment of the data obtained. An exploration of design issues related to reliability, validity, and research ethics serves to conclude the chapter.

Population and Sample

According to Glass and Stanley (1970:240), the term "population" represents a collection or aggregation of units to be studied or about which inferences are to be made. The ultimate, broad population to be studied in this research could be considered to be all schools of nursing where a specific nursing model has been incorporated into the conceptual basis for the program. Delimitations incorporated into the study, particularly the selection of the Roy Adaptation Model as the focal nursing model, necessitated the delimitation of the population to those schools of nursing using this particular nursing model as a conceptual basis.

In order to identify schools of nursing using the Roy Adapatation Model, a list of 46 programs known to Sister Callista Roy and the researcher was generated. Since the status of these programs in relation to their use of the Roy model was not known (that is, whether they had discontinued its use, were limited in its use, or were still basing their program on the model), it was necessary to make preliminary contact with each of the directors of the 46 schools to determine the status of their program and to obtain an indication of their willingness to participate in the project.

A preliminary "Announcement and Request", which included a brief questionnaire, was developed to acquire this information. (See Appendix B.) In this document, the nature of the research project was described and an explanation of the purpose of the questionnaire was included. A request was made for information related to the length and type of each program, the number of students, and the date of implementation of the Roy Model, thus providing a brief profile of the program that would assist in sample selection. The preliminary questionnaire was mailed in April 1986. Follow up of nonrespondents was not done since failure to respond was viewed as lack of interest in the project and the main objective of the "Announcement and Request" was to identify programs that would be interested in being considered in the selection of the sample. Detailed information regarding the results of this preliminary survey are presented Chapter 4.

Of the 46 programs surveyed, 26 (56.5%) complied with the request for information about their program and returned the questionnaire. Fourteen of the 26 indicated an interest in participating in the project. These fourteen programs were viewed as the accessible population from which the sample was to be drawn.

The method of sampling in this study was purposive in that, for comparative purposes, it was deemed necessary to select programs of the same type--all diploma, associate degree, or baccalaureate. Of necessity, programs considered in sample selection were only those indicating an interest in participating in the project. Programs of reasonable accessibility to the researcher were also given particular consideration in the final selection.

Initially, the thought of including programs from both Canada and the United States was considered. However, it was ultimately decided that comparability of programs would be enhanced if the selection was made from one country only; cultural and political variables would be less of a concern.

The resulting sample consisted of three diploma nursing programs from three different Canadian provinces. A description of each program is provided in the chapters addressing the findings related to the respective schools. The decision to include three schools in the sample was primarily one related to constraints of time and funding available for the project. In was anticipated that three unrelated programs would provide a good indication of the potential application of this educational innovation although it was recognized that there could be as many variations in usage of the Roy Model as there are programs that have incorporated it as a conceptual basis.

It was obvious that, with this type of sampling procedure, generalizability, as it is traditionally defined, was questionable. As Bogdan and Biklen (1982:41) have noted, generalizability, as it applies to qualititative research, holds different meanings for different researchers. It was not the researcher's objective in this study to generate generalizable findings but rather to carefully document three different settings relative to the manner in which they have implemented an educational innovation. It will be the readers who judge the generalizability of the findings and determine how they fit into the general scheme of nursing education. This perspective of generalizability is in keeping with that articulated by Bogdan and Biklen (1982:41).

Associated with the assessment of each program was sampling of faculty members and students. In situations where it was not feasible to interview every faculty member, random sampling was initially employed. The resulting sample was then checked to determine the equality of representation from each level of the program. In situations where the distribution was imbalanced, selected names were substituted. By doing this, it was possible to include in the sample persons viewed by program directors as being particularly strong or weak in their application of the model to their instructional setting. This procedure was termed by Field and Morse (1985:95) "judgemental sampling" and is defined as "the process of seeking out informants because of their specialized knowledge of some particular topic."

Selection of students to complete the questionnaire was a matter of convenience although the attempt was made to obtain representation from each curricular level. This aspect of sampling is described as it relates to each respective program in the following chapters.

The documentation to be analyzed in each program was dictated by the dimensions identified in the conceptual framework and as enumerated in the previous chapter. Elaboration of the details involved in the analysis of documentation will be provided in the following sections.

Research Design

The design of this research was described as a multi-site organizational study, the purpose of which was to describe and analyze the extent to which three schools of nursing have incorporated the Roy Adaptation Model as the conceptual basis for their programs. The conceptual basis for this study evolved from theory and research related to organizational change and educational innovation with particular focus on the degree of implementation of an innovation. As mentioned previously, three schools of nursing were selected for site visits. In addition, a fourth program participated in a pilot study, the findings of which were reported in Andrews (1986a).

For each assessment, the program was contacted several months in advance to clarify the intent of the project and further assess willingness to participate. Each of the prospective participant programs was provided with a copy of the "Proposal for Research" (Andrews, 1986b) and the request was made that some written indication of willingness to participate be provided for the researcher. An institutional consent form was completed by all programs. (The form used for institutional consent is provided in Appendix C.)

Closer to the date established for the visit to the school, final arrangements were made regarding scheduling of proceedings for the researcher and the selection of participants. Each school provided the researcher with a list of faculty members; thus, selection of individuals for interview was possible prior to the visit.

The request was made of each school to provide documentation prior to the visit to assist in acquainting the researcher with the design of the program and enable some preliminary assessment of a number of the dimensions of the curriculum. Documents such as the school's philosophy, conceptual framework, terminal objectives, and curriculum structure assisted in facilitating the on-site visit.

The major activity during each of the visits was the interviewing of the selected faculty members. Periods of time between this activity were used for document analysis of such curricular dimensions as the course outlines, evaluation forms for students and faculty, and for the administration of the questionnaire to the students. Each of these activities is addressed in the following presentation of the data collection techniques involved in the project.

Tools

The main data collection techniques involved in this project were interview, questionnaire, document analysis, and observation. Each of these techniques is addressed below.

Interview

According to Hall and Loucks (1977:265), the primary unit of adoption of an education innovation is the individual teacher: "The only way to know whether and how an innovation is being used is to assess each individual's use directly." With this in mind, it was determined that interviewing faculty members regarding their personal use of the Roy Model would be an important indication of the extent to which the model was being applied.

The particular technique used to obtain this information was the Levels of Use focused interview--a process arising out of the Concerns-Based Adoption Model developed at the Research and Development Center for Teacher Education at the University of Texas at Austin and described by Loucks et al. (1975). The interview schedule is included in Appendix D.

As a generic data collection tool used to assess the Level of Use of an innovation, the focused interview consists of a branching technique of open-ended questions and follow-up probes that are adapted for the specific innovation being assessed. Hall (1979:11) suggested that the interview actually takes on the form of a casual conversation for the interviewees related to what they are doing and not doing with the innovation. Interviewers are trained to collect information and descriptions of behaviors related to use of the innovation. Behaviors are then rated according to operational definitions and the assessment of Level of Use. (The consent form associated with the taped Levels of Use interview is contained in Appendix E.)

As Hall (1979:11) reported, research has been done to establish reliability associated with the focused interview procedure. Interrater reliabilities have been assessed between .85 and .95. Estimates of validity of the Levels of Use concept have been assessed using an ethnographic approach. According to Hall (1979:11), the ethnographer's ratings of Levels of Use correlated .98 with the interviewers' ratings. Hall (1979:11) also noted that

> Extensive training procedures have been developed to work with Levels of Use interviewers and the concept is receiving increasing use in evaluation applications as well as being used by change facilitators to increase their clinical and diagnostic skills.

In this respect, the researcher attended a three-day workshop on the Levels of Use interview that was offered in Phoenix, Arizona in March 1986. The workshop focused on interviewing and rating skills associated with the interview. Certification by the Research and

Development Center for Teacher Education at the University of Texas in the use of the tool was obtained.

Questionnaire

Fullan and Pomfret (1977:362) suggested that, in order to assess the degree of implementation of an organizational change, the researcher should consider the students' interpretation of the manner in which the innovation has been implemented. For this reason, an open-ended questionnaire was designed to obtain the perception of students in relation to the application of the nursing model in their nursing program. The questionnaire provided ease of administration and was efficient in consideration of time constraints. In addition, it permitted control of administration and consistency in questioning while enabling the researcher to gain access to a greater number of subjects than would have been possible with a technique such as an interview. It was recognized that the information obtained by such a data collection method was not as rich as that obtained through a personal interview with each student. It was assumed, however, that this shortcoming was compensated for by the variety of data collection techniques employed in the study.

The questionnaire (Appendix F) consisted of five items relating to the use of the nursing model in the curriculum. An open-ended format was selected to allow subjects to repond to the questions in their own words. Although the attempt was made to avoid the bias inherent in focusing the respondents on the Roy Model, the possibility that the researcher would have been associated with the Roy Model does exist.

An attempt was made to establish content validity of the questionnaire by having it revieved by a number of experts familiar with the purpose of the research and the nursing model under investigation. In addition, participants in the pilot study evaluated the questionnaire for clarity and their responses provided evidence that the questions were generating the desired information. No changes were made in the questionnaire following the pilot study.

Document Analysis

According to Stevens (1979:129) the conceptualization of nursing should appear in the curriculum in two ways: (1) as content to be taught, and (2) as an organizing structure for the curriculum, providing guidelines for the content of all other courses, clinical practice, assessment procedures, and for research. Selected curricular documents were identified to provide an indication of the implementation of the Roy Model in the dimensions identified by Stevens. These documents included statements of the program's philosophy, the conceptual framework, the terminal and course objectives, course outlines, evaluation forms, promotional materials, curricular structure, patient assessment tools and procedures, and any other documents that assisted in providing the information desired.

Document analysis, according to Field and Morse (1985:84), is recognized as one method of triangulation in qualitative research. In this project, document analysis was viewed as an important source of information about the intent of the program in respect to its design and objectives. As Bogdan and Biklen (1982:100) reported, documents such as those identified above

> have been viewed by many researchers as extremely subjective, representing the biases of the promoters and, when written for external consumption, presenting an unrealistically glowing picture of how the organization functions.

Despite Bogdan and Biklen's views on subjectivity and bias, it was considered important to include the documents as they provided vital information on the intent of the program planners. By comparing what was actually being done in the nursing program with what was intended relative to the use of the nursing model, a picture of the degree of implementation became clearer.

In reviewing documents, the primary objective was to determine the extent to which there was evidence of the incorporation of the Roy Model. In particular, each document was assessed for evidence of reference to the model generally and to each of the four major concepts of the model: the person, the environment, health, and nursing.

Observation

Observational methods of data collection have been referred to by Polit and Hungler (1987:266) as "the methodological backbone in a number of scientific disciplines." Although it was recognized that a wealth of data could be obtained regarding the subject under investigation through observational methods, time constraints permitted only brief observation of classroom situations.

The researcher requested that time be made available during the site visit for a brief observation period in a classroom situation. It was recognized that obtrusive observation such as this almost certainly evokes biased behavior. However, even under such conditions, demonstration of a faculty member's capabilities in using the model in an instructional situation would be elicited as would evidence of the abilities of the students in responding to such instruction. This activity was not always possible since the dates for the visit were typically scheduled when faculty members were relatively free of teaching reponsibilities so that they would be available to be interviewed.

Treatment of Data

The data generated by each of the main collection techniques were used to provide a composite picture of the extent to which each nursing program had incorporated the Roy Adaptation Model as the conceptual basis of its program. This composite picture was ultimately reported in terms of the sixteen curriculum dimensions identified previously. For ease of description, however, treatment of the data is discussed relative to each of the main techniques used in the study.

Interview Data

The first major task in the treatment of the taped interview was to rate the subjects as to their Level of Use, both overall and in relation to the seven categories. The Level of Use rating sheet as developed by Loucks et al. (1975:42) was used to help process the information gathered from the taped Levels of Use interview. According to Loucks et al. (1975:41),

> The aim of the rating procedure is to place an interviewee at a Level of Use for each category and to designate an overall Level of Use.

Each particular category and the overall Level of Use rating were assessed independently to provide a category profile for each individual. Guidelines for rating Level of Use as articulated by Loucks et al. (1975:43) were adhered to throughout the rating process.

As noted previously, the Levels of Use framework described the various behaviors of the innovation user through eight stages and in relation to seven categories representing typical user behavior. Although the framework is fully operationalized in Appendix A, the eight stages according to Hall et al. (1975:54) are defined in Table 3.1.

It became evident as the project progressed that there were a group of faculty members who could not be accommodated on the Levels of Use framework as it was developed by the University of Texas group. These people initially appeared to be non-users of the model. Some were unconvinced that the Roy Model or even nursing models in general were an appropriate solution to problems in nursing education. There was some vagueness in their description of the manner in which the Roy Model affected their teaching and there appeared to be a lack of internalization of the concepts inherent in the model. However, by virtue of the structure of the curriculum and related teaching materials, certain details of the innovation were inherent in the situation and were unavoidable. Classification of these individuals as non-users was misleading and no other category adequately described what was being observed. The solution to the problem seemed to be the addition of another "user" category as a component of Level III. For

Table 3.1

Levels of Use--Definitions

Non-use. State in which the user has little or no knowledge of the innovation, no involvement with the innovation, and is doing nothing toward becoming involved.

Orientation. State in which the user has acquired or is acquiring information about the innovation and/or has explored or is exploring its value orientation and its demands upon user and user system.

Preparation. State in which the user is preparing for first use of the innovation.

Mechanical use. State in which the user focuses most effort on the short-term, day-to-day use of the innovation with little time for reflection. Changes in use are made more to meet user needs than client needs. The user is primarily engaged in a step-wise attempt to master the tasks required to use the innovation, often resulting in disjointed and superficial use.

Routine. Use of the innovation is stabilized. Few if any changes are being made in ongoing use. Little preparation or thought is being given to improving innovation use or its consequences.

Refinement. State in which the user varies the use of the innovation to increase the impact on clients within immediate sphere of influence. Variations are based on knowledge of both short- and long-term consequences for clients.

Integration. State in which the user is combining own efforts to use the innovation with related activities of colleagues to achieve a collective impact on clients within their common sphere of influence.

Renewal. State in which the user re-evaluates the quality of use of the innovation, seeks major modifications of or alternatives to present innovation to achieve increased impact on clients, examines new developments in the field, and explores new goals for self and the system.

purposes of this research, therefore, "Mechanical use" became Level IIIa and the new category (Level IIIb) was termed "Limited use." This category was operationalized for each of the seven categories of behavior and overall Level of Use as illustrated in Table 3.2. Further discussion of this issue is contained in Chapter 8.

Once the interviews had been rated, Levels of Use profiles for each of the persons interviewed were graphed to provide a visual representation of the overall rating and that assigned to each of the categories. In addition, frequency distributions of the nine levels were tabulated.

The interviews were also analyzed for information pertaining to the remaining curricular dimensions comprising the framework for this investigation. As comments related to any of these aspects were identified, they were noted and subsequently compiled to contribute to the overall picture for the nursing program. The reporting of these data was primarily didactic; key information related to each of the curricular dimensions was presented and subsequently supported with examples from the data.

Questionnaire Data

Although the questionnaire given to students was open ended in format, it was anticipated that, for some items, the responses could be categorized according to the extent to which the major elements in the Roy Model were identified. Responses were recorded verbatim as they related to each item and frequencies were noted where appropriate. As with the interview, any comments related to other dimensions under investigation were noted and compiled.

Table 3.2

Operationalization of Limited Use

Decision Point - Innovation is part of the curriculum and some aspects of its implementation are unavoidable.

Level IIIa - Limited Use: State in which the user is using some aspects of the innovation by virtue of its presence in the curricular situation but there is evidence that the innovation is receiving limited use.

Knowledge - Uses terminology associated with the innovation but tends to be vague in description of the manner in which the innovation affects the teaching/learning situation.

Acquiring Information - Takes little or no action to solicit information beyond descriptive information if it happens to come to personal attention.

Sharing - Is not communicating with others about the innovation or reports communicating with others but examples of such interactions may not be of direct applicability to the innovation.

Assessing - Reports primarily problems associated with the use of the innovation. Personal use of the innovation is not a focus in the assessment.

Planning - Problems with the use of the innovation have been identified but there are no concrete plans for seeking solutions.

Status Reporting - Reports problems associated with personal use of the innovation or discomfort with some of the concepts inherent in the innovation.

Performing - Uses the innovation primarily as it is inherent in the situation. There may be little evidence of internalization of or commitment to the use of the innovation.

Document Analysis Data

The main objective of the document analysis was to determine the extent to which the concepts inherent in the Roy Model were evident in the documentation relating to the nursing program. Each of the documents analyzed was first described, inclusion of the major concepts was noted, and supportive examples from the data were documented.

Observation Data

Data gathered during observation opportunities related to evidence of the Roy Model in an instructional setting and the extent to which both faculty and students were comfortable with the concepts being addressed. Evidence of the concepts related to the model was noted and described as it related to the relevant dimensions of the curriculum being addressed in the study.

Design Issues

Issues of research credibility prompted identification of measures taken in the study design to enhance the reliability and validity of the findings. It was acknowledged that reliability and validity in terms of qualitative research procedures represent issues in themselves. For example, Glaser and Strauss (1967:224) questioned the applicability of such "canons of rigor:"

> [W]e have raised doubts about the applicability of these canons of rigor as proper criteria for judging the credibility of theory based on flexible research. We have suggested that criteria of judgement be based instead on the detailed elements of the actual strategies used for collecting, coding, analyzing, and presenting data when generating theory, and on the way in which people read the theory.

Despite the viewpoint posited by Glaser and Strauss, the perspective on the issue of research credibility assumed in this discussion was similar to that expressed by LeCompte and Goetz (1982): it is possible to discuss the credibility of qualitative research procedures in terms of the traditional concepts of reliability and validity typically associated with the quantitative approach. Addressed in the following section are issues related to external and internal reliability and internal and external validity. The section concludes with an exploration of ethical considerations associated with the research.

External Reliability

Reliability typically refers to the replicability of the findings. According to LeCompte and Goetz (1982:32), external reliability "addresses the issue of whether independent researchers would discover the same phenomena or generate the same constructs in the same or similar settings." Five factors were identified by LeCompte and Goetz (1982:37) as associated with external reliability: researcher status position, informant choices, social situations and conditions, analytic constructs and premises, and methods of data collection and analysis. Each of these factors is addressed below.

Researcher status position. LeCompte and Goetz (1982:37) emphasized that information obtained by the researcher is influenced by the participants' perceptions of the researcher and, in turn, the researcher's frame of reference and acquaintance with the subject of inquiry. In this study, the researcher's previous experience with the subject of inquiry was extensive and involved in-depth association with both the Roy Adaptation Model and its application in the curricular setting. Familiarity with the topic of inquiry served to enhance and facilitate description and analysis during each of the site visits thereby contributing to external reliability. However, it was acknowledged that, for subjects recognizing the researcher's previous association with the Roy Model, the manner in which they responded to questions during the interview may have been affected by such knowledge. This would have implications for the validity of their responses.

Informant choices. It was recognized that each informant provided a different perspective related to the area of inquiry and that careful delineation of the characteristics of informants was required to enhance external reliability. Ethical considerations related to subject anonymity and confidentiality, however, prevented detailed description of informant characteristics. Subjects were randomly selected in an effort to equalize the effect of extraneous characteristics that might affect the person's response and where appropriate, the individual's program responsibility according to year was identified. Further delineation of subject characteristics was considered to be a compromise of ethical protocol.

Social situations and conditions. The social context in which data were gathered was recongized as an important consideration associated with external reliability. In this research, private interviews with faculty members were conducted. The research was carried out at the program site in order to ensure that the social context was as conducive as possible to the generation of reliable and valid information. It was assumed that the maintenance of anonymity and confidentiality would also encourage informants to provide credible information.

Analytic constructs and premises. The clear delineation of units of analysis was recognized as an important factor in the assessment of external reliability. For this reason, specification of the curricular dimensions and the elements of the nursing model in a conceptual framework was accomplished prior to the collection of data. The analytic framework was derived from and supported by literature and theory arising from the disciplines of education and nursing.

Methods of data collection and analysis. Specificity in description of methods of data collection and analysis was another factor associated with external reliability. The use of the Levels of Use interview to assess faculty degree of implementation served to enhance external validity and thus replicability of the research. Throughout this chapter, specificity in description of associated data collection and analysis procedures was provided. This specificity should serve to enhance external reliability, as well.

Internal Reliability

Internal reliability, according to LeCompte and Goetz (1982:40), addresses the issue of whether, within a single study, multiple observers will agree. Since there was one investigator involved in this research, interobserver reliability was not a crucial issue, however, it was recognized that design factors unrelated to multiple observers serve to enhance internal reliability. Low-inference descriptors was one of these factors.

Low-inference descriptors. The necessity to define variables in concrete and precise terms was recognized and the conceptual framework developed for this study contributed to this specificity. A premise associated with the Levels of Use framework was that the interview and its subsequent rating require little inference on the part of the researcher due to the specific operationalization of each of the levels and categories. It was found, however, that the rating decisions did require some subjective interpretation and it was recognized that this detracted from the internal reliability of the findings. However, the wealth of information provided by the Levels of Use framework was considered to be an overriding strength.

Multi-site design. The multi-site design incorporated into this study also served to enhance the internal reliability of the research findings. It was recognized that independent generation and confirmation of results supported the reliability of observations, especially those that were common to either two or all three of the programs.

Informant confirmation. Informant confirmation of study findings was deemed to be an important procedure in this research. For this reason, a draft report of the findings associated with each site visit was forwarded to the respective school of nursing for review and confirmation of the accuracy of the findings. Observations and reactions were incorporated into the final report of findings.

Mechanical recording of information. Mechanical recording was identified as a design feature enhancing the internal reliability of the data. Interviews with faculty members were recorded, thereby facilitating their documentation and permitting multiple reviews and assessments. Curricular documents were made available for the researcher to keep and input from student subjects was preserved in writing on the questionnaires. Although it was recognized that such procedures may affect the validity of the information provided, internal reliability was deemed to be an initial concern.

Internal Validity

Internal validity, as defined by LeCompte and Goetz (1982:32), represents the "extent to which observations and measurement are authentic representations of reality." Of the common threats to internal validity, observer effects and selection and regression were of concern in this study.

Observer effects. It was recognized that the presence of an observer has the potential to influence the accuracy of information provided by respondents. Several measures were undertaken to counteract this effect. Initially, a consent form was presented to each interview subject explaining the nature of the interview, the purpose of the research, and assuring each of confidentiality and anonymity of their response. Subjects were also informed that they could decline to answer any question. It was assumed that the casual nature of the interview would put the subject at ease but it was recognized that the presence of the tape recorder would inflict a constraint upon the responses of some individuals.

Selection and regression. The threats of selection and regression pertain to distortions in data and conclusions created by the selection of participants and informants. In order to lessen the effects of selection, a random choice of respondents was conducted. With multiple interviews, it was possible to validate information relative to particular observations made regarding many of the curricular dimensions. Triangulation of data collection techniques also served to enhance internal validity in this respect.

External Validity

External validity refers to the extent to which representations may be compared legitimately across groups. As LeCompte and Goetz (1982:34) noted, the aim in qualitative research undertakings is comparability and transferability of findings rather than outright transference to groups not investigated. Comparability in this study was sought by the delineation of the characteristics of the groups studied to serve as a basis for comparison with other like and unlike groups. Transferability was enhanced by explicit identification of methods, analytic categories, and characteristics of phenomena so that comparisons can be made with confidence. As was mentioned earlier in this chapter, it was not the researcher's objective in this study to generate generalizable findings but rather to carefully document three different settings relative to the manner in which they have implemented an educational innovation.

Ethical Considerations

The controversial nature of ethical considerations in research was recognized by Polit and Hungler (1987:24,25): "ethical issues in the context of scientific research are not clear cut." They proceeded to state,

> Ethics in research is a continually perplexing concern because ethical demands often conflict with scientific requirement. The researcher needs to develop great sensitivity to ethical considerations.

A number of steps were taken to preserve the ethical integrity in this research undertaking. When program directors were contacted regarding their potential participation in the research, it was requested that the "Institutional Consent Form" (Appendix C) be completed. In addition to providing the researcher with written permission to enter the institution for research purposes, the objective of the research was described and the identity of the program was protected.

Following the site visits and a review of the respective report of the findings at each of the programs, it was mutually determined that the participating schools of nursing would be identified by name throughout the dissertation. Written consent to proceed in this manner was obtained from the director of each program. Included in this consent was permission to quote, in the report of findings, identified passages from curricular documents. It was the expectation of the directors of the programs and the researcher that specific identification of the participating schools of nursing would encourage communication with other nursing programs using or interested in using the Roy Adaptation Model as the conceptual basis for their nursing programs.

Written consent was also obtained from each faculty member involved in the research (Appendix E). In this form, the objective of the research was described as was the purpose and procedure of the interview including the researcher's desire to tape the interaction. The attempt was made to protect the confidentiality and anonymity of responses but it was recognized that, in some descriptions, the respondents may be identifiable by virtue of the content of the discussion and its relationship to their teaching responsibilities. When such a situation was identified, the attempt was made to ensure that the comments were not controversial in nature and that the respondent did not object to this exposure.

The questionnaire completed by students stipulated that the response remain unsigned. Thus confidentiality and anonymity of each respondent was protected.

Associated with the above issues is trade off and compromise. For example, it was recognized that steps taken to enhance reliability may, in turn, have jeopardized validity and vice versa. This discussion was conducted in order to inform the reader about considerations related to each of these design issues. The ultimate judgement of the credibility of the research remains with the reader.

Summary

The major topics addressed in this chapter on the method of the research related to a description of the population and sample, their associated delimitation, and a description of the research design including discussion of important design issues pertaining to reliability, validity, and research ethics. An exploration of the data collection and treatment techniques involved in the study was also conducted.

Chapter 4 is devoted to the findings of the preliminary survey. It consists of detailed information regarding the responses from the schools of nursing contacted in relation to the implementation of the Roy Adaptation Model. The findings of the site visits are reported in Chapters 5, 6, and 7.

CHAPTER 4

Report on the Preliminary Survey

As was indicated in the previous chapter, the process of selecting the sample for this research involved a preliminary survey of schools of nursing identified as using the Roy Adaptation Model. The purpose of the survey was to describe the proposed research; to obtain some information about the program relative to type, length, size, and date of implementation of the Roy Model; and to obtain an indication of willingness to be considered in the sample selection.

In this chapter, a report on this preliminary survey is provided. Initial description focuses on the method of the survey. Secondly, the findings are presented; interpretive comments conclude the chapter.

Method

The development and conduct of a preliminary survey was deemed to be a necessary step in the identification of the accessible population for this research and for the subsequent sample selection. Although it was possible, through contact with Sister Callista Roy, to identify many nursing programs thought to be using the Roy Model, the characteristics of the programs and the extent to which they had implemented the model was not known. It was also important to obtain an indication of interest in and ability to participate in such a research undertaking.

The "Announcement and Request" (Appendix B) was mailed to 46 schools of nursing (9 Canadian, 35 American, and 2 other).

The questionnaire was presented for review to four individuals familiar with the purpose of the research. These individuals included a director and an assistant director of a school of nursing using the model, the developer of the model (Sister Callista Roy), and the research advisor for the study.

The "Announcement and Request" was mailed to 44 schools of nursing in April 1986. An initial list of schools was obtained from Sister Roy and a number of programs were added as they were known to the researcher or were brought to the researcher's attention during the initial stages of the project. In September 1986, two more Roy programs came to the attention of the researcher, were added to the list, and sent survey forms. There was reason to believe that the list of schools of nursing using the Roy Model was incomplete since, during the course of the study, a number of additional programs were identified but not included in the survey since the sample had already been selected.

Follow-up of nonrespondents was not done since the primary purpose of the survey was to obtain an indication of interest in participating in the project. Failure to respond was viewed as a lack of interest.

Data provided by the respondents were coded for computer analysis. Frequency distributions for each of the variables were obtained and tabulated and, where appropriate, cross tabulations were conducted. The following presentation of findings focuses on each of the variables that was addressed in the "Announcement and Request."

Findings

The findings reported in this section relate to the variables identified in the survey form: the type of program, the length of program in weeks, the average number of graduates per year and students per class, the date of implementation of the Roy Model, the approximate number of graduates from the Roy program, and willingness or unwillingness to participate in the study. Initially, the response rates for the survey are presented.

Response Rates

Of the 46 nursing programs that were sent the "Announcement and Request" (44 in April and 2 in September), there were 26 respondents--a response rate of 56.5 percent. The response rate from Canadian programs was 89 percent and from U.S. programs, 51 percent. The response rates are illustrated in Table 4.1

The response rate from Canadian schools of nursing was considered to be fairly good, however, that from American schools was lower than expected. As a result, the findings reported below should be regarded as pertaining only to the programs that responded to the survey. The results cannot be considered representative of all schools of nursing using the Roy Model.

Table 4.1

Response Rates for Preliminary Survey

According to Location

Location	Number of programs sent survey forms	Number of respondents (percent)
Canadian	9	8 (88.9)
United States	35	18 (51.4)
Foreign	2	0 (0)
Total	46	26 (56.5)

Type of Program

Respondents were asked to designate their program as either diploma, associate degree, or baccalaureate. Of the 26 respondents, 8 indicated diploma programs, 4 were associate degree programs, and 14 were baccalaureate programs. This information is displayed in Table 4.2.

A cross tabulation was carried out to determine the relationship of type of program and location (Canada versus the United States). Of the 8 diploma programs, 7 (87.5 percent) were located in Canada while the majority of the baccalaureate programs (92.9 percent) were in the United States. (See Table 4.3.)

Table 4.2

Number of Respondents According to

Type of Program

Type of program	Number of respondents (percent)
Diploma	8 (30.8)
Associate Degree	4 (15.4)
Baccalaureate	14 (53.8)
Total	26 (100.0)

Table 4.3

Type of Program According to Location

	Location of programs		
Type of program	Canada	United States	Row total
Diploma	7 (87.5)	1 (12.5)	8 (100.0)
Associate degree	-	4 (100.0)	4 (100.0)
Baccalaureate	1 (7.1)	13 (92.9)	14 (100.0)
Column total	8 (30.8)	18 (69.2)	26 (100.0)

Length of Program

It was to be expected that the length of a particular program would be associated with the type of program being offered. Thus, data relating to length of program are reported according to the type of program. Diploma programs ranged in length from 40 weeks to 96 weeks. There were two numerical values that occurred most frequently: 88 weeks and 96 weeks. The mean length of program was 82.85 weeks. Associate degree programs averaged 73.25 weeks in length and ranged from 60 weeks to 87 weeks.

Of the 11 baccalaureate programs, the length of program ranged from 60 to 128 weeks in length with a mean of 98.36 weeks. Although no further information was sought regarding this item, the wide variance in program length may have reflected nursing programs with some arts or science background required prior to admission to the nursing program. Information relating to length of program is presented in Table 4.4.

Table 4.4

Program Length According to Type of Program

	Program length in weeks according to		
Type of Program	Range	Mean	Mode
Diploma	40 - 96	82.85	88,96
Associate degree	60 - 87	73.25	-
Baccalaureate	60 -128	98.36	120,128

Average Number of Graduates per Year

In an effort to determine the size of the nursing programs, respondents were asked to indicate their average number of graduates per year. The largest program produced, on the average, 120 graduates per year while the smallest graduated 18 students per year.

When considering average number of graduates according to the type of program, it was the associate degree programs that produced the largest average number of graduates per year per program (72.75, with diploma programs graduating an average of 71 nurses each, and baccalaureate programs, 55 nurses each. (See Table 4.5.)

Table 4.5

Average Number of Graduates per Year

According to Type of Program

	Average number of graduates per year according to	
Type of program	Range	Mean
Diploma	18 - 105	71.00
Associate degree	36 - 95	72.75
Baccalaureate	23 - 120	55.00
Over all programs	18 - 120	64.06

Average number of graduates per year was also analyzed according to location. This information is illustrated in Table 4.6.

In Canada, the majority of graduates from Roy programs (92.6 percent) have diploma preparation, while in the United States, 62.5 percent of the graduates were baccalaureate nurses.

Table 4.6

Average Number of Graduates per Year

According to Location and Type of Program

Location	Type of program (N)	Total graduates per year by program (percent of total)
Canada	Diploma (7)	528 (92.6)
	Associate degree (0)	-
	Baccalaureate (1)	42 (7.4)
	Total (8)	570 (100.0)
United States	Diploma (1)	40 (4.5)
	Associate degree (4)	291 (33.0)
	Baccalaureate (13)	550 (62.5)
	Total (18)	881 (100.0)

Average Number of Students per Class

The average number of students per class provided another indication of program size. Programs ranged in size from 12 students per class to 200 students per class. As Table 4.7 depicts, diploma programs ranged in size from 24 students to 130 students with a mean of 89 students while associate degree programs demonstrated the widest range (12 to 200 students per class). The mean for that group of programs 87.50 was students per class. Baccalaureate programs appeared to have a relatively smaller class size with a range from 23 to 70 students and a mean of 43.92 students per class.

Table 4.7

Average Number of Students per Class According to Type of Program

	Average number of students per class	
Type of program	Range	Mean
Diploma	24 - 130	89.00
Associate degree	12 - 200	87.50
Baccalaureate	23 - 70	43.92

Date of Implementation

Dates of implementation of the Roy Adapatation Model as the nursing conceptual basis for the programs ranged from 1969 to 1986; there were two popular years--1976 and 1981--with four programs indicating these dates of implementation.

Total Number of Graduates

Information was also sought regarding the approximate total number of graduates from each Roy nursing program to the time that the survey form was completed. In total, the respondents indicated approximately 6,583 graduates had passed through their Roy Model programs. The respondent with the largest number of graduates indicated that approximately 900 nurses had completed the course of studies based on the Roy Adaptation Model.

This information provided an indication of the wide usage of the Roy Model as a nursing conceptual basis in educational programs, especially considering that the information was obtained from slightly more than half of the nursing programs identified as using the model. It was not known, however, whether this number of programs (46) constituted a representative sample of the population of Roy Model users. The total number of graduates from Roy Model programs is undoubtedly much higher.

Willingness to Participate

The primary purpose of the preliminary survey was to identify respondents that were willing to be considered in the selection of the sample and to participate in the study if the program were selected. Four options were provided for respondents: (1) Yes, this school is willing to be considered in sample selection, (2) No, this school is limited in its application of the model, (3) No, this school has discontinued use of the model, and (4) No, this school cannot participate at this point in time. Table 4.8 illustrates the distribution of responses to this item.

Table 4.8

Willingness to be Involved

Response	Frequency	(Percent)
Willing to be considered	14	(53.8)
Limited application	6	(23.1)
Discontinued use	1	(3.8)
Cannot participate	4	(15.4)
Missing	1	(3.8)
Total	26	(100.0)

Of the 14 respondents indicating a willingness to be considered in the selection process, 6 (42.9 percent) were located in Canada and 8 (57.1 percent) were in the United States. Those repondents indicating limited application of the model were primarily located in the United States (83.3 percent) although one (16.7 percent) of the six was from Canada. Respondents indicating discontinuation and inability to participate were American schools.

Table 4.9 illustrates the respondents' willingness to be involved in the study according to type of program offered. Of the 14 respondents indicating a willingness to be involved, 6 were from diploma programs, 6 from baccalaureate programs, and 2 were from associate degree programs. These programs were thus considered to be the accessible population from which participants in the study could be selected.

Table 4.9

Willingness to be Involved

According to Type of Program

	Type of program			
Response	Diploma	Associate degree	Baccalaureate	Row total
Willing to be considered	6	2	6	14
Limited application	1	1	4	6
Discontinued use	-	-	1	1
Cannot participate	-	1	3	4
Missing	1	-	-	1
Column total	8	4	14	26

Sample Selection

As was described in Chapter 3, the method of sampling was purposive in that, for comparative purposes, it was deemed necessary to select programs of the same type--diploma, associate degree, or baccalaureate. Of necessity, programs considered in sample selection were only those indicating an interest in participating in the project. Programs of reasonable accessibility to the researcher were also given particular consideration in the final selection.

Initially, the thought of including programs from both Canada and the United States was given consideration. However, it was ultimately decided that comparability of programs would be enhanced if the selection was made from one country only; cultural and political variables would be less of a concern.

The resulting sample consisted of three diploma nursing programs from different Canadian provinces: the Algonquin College Program in Nepean, Ontario; the Health Sciences Centre School of Nursing in Winnipeg, Manitoba; and the Keyano College program in Fort McMurray, Alberta. A description of each program is provided in the chapters on each school.

Interpretation of the Survey Findings

It must be recognized that the descriptive information included in this chapter is reflective only of the characteristics of those programs from which there was a response to the preliminary survey--56.5 percent of the programs initially identified as being based on the Roy Adaptation Model. The schools of nursing identified for the preliminary survey were not considered to be the total population of nursing schools using the Roy Model and indeed, throughout the course of the study, a number of other programs were added to the initial list. Thus, this information presents but a beginning indication of the extent to which the Roy Model is being applied in schools of nursing across Canada and the United States.

Summary

The findings presented in this chapter pertained to the preliminary "Announcement and Request" that was sent to schools of nursing that, at one point, were known to have implemented the Roy Adaptation Model as the conceptual basis for their programs. The information requested was primarily for purposes of sample selection although the findings did provide some descriptive information about the repondents and their use of the Roy Model. Findings were reported for each of the variables comprising the survey: the type of program, the length of the program, the approximate number of graduates per year and students per class, the date of implementation of the Roy Model, the number of graduates from the Roy program, and the location of the program--Canada or the United States. In addition, responses regarding willingness to be involved in the project were presented.

Chapter 5 is the first of three chapters in which the findings of the site visits to schools of nursing are reported. Information from the three site visits is then synthesized into an interpretive discussion in Chapter 8.

CHAPTER 5

Site Visit--Algonquin College

The site visit to Algonquin College in Nepean, Ontario was conducted on October 6 and 7, 1986. In this chapter, the findings of that visit as related to the framework designed for this research are presented. Before discussion of each of the curricular dimensions is undertaken, a description of the program and a brief history of the events preceding the decision to adopt the Roy Model as the nursing conceptual basis for the curriculum are presented as background information. Additional background information pertains to the program's conceptual framework.

Reporting of the findings is structured according to the sixteen curricular dimensions identified in the conceptual framework for this study. Each dimension is described and analyzed as findings are reported. Of particular interest was the evidence of the operationalization of the Roy Adaptation Model in each of the dimensions. The chapter concludes with some summarizing remarks related to the findings.

Background Information

A brief description of the program, some factors relating to the recent history of the school, and a description of the conceptual framework are presented.

Description of the Program

Algonquin College offers a three-year (96-week) nursing diploma program leading to nurse registration in the Province of Ontario. The curriculum is offered at three campuses and in two languages: in English at the Pembroke Campus in Pembroke, Ontario and the Woodroffe Campus in Nepean, Ontario; and in French at the Rideau Campus in Ottawa, Ontario. Although the three campuses have the same curricular structure to the level of course objectives, the manner in which the objectives are implemented varies among programs. The Woodroffe Campus was the site of this visit.

The Algonquin Program at the Woodroffe Campus admits an average of 140 diploma students per class and graduates an average of 90 nurses per year. There are 38 faculty members.

The College year is divided into two semesters: late August to December and January to April; students are not in the program during the approximate four-month summer period. The total program length is 96 weeks and upon successful completion of the course of studies, students are prepared to write the Canadian Nurses Association Testing Service examinations leading to nurse registration in the Province of Ontario.

A Brief History

A significant event occurred in the history of nursing education in Ontario in 1973: all schools of nursing in the Province were incorporated into the college system. Three existing programs became part of Algonquin College. At that time, the decision was made to adopt a common curriculum for the three programs.

Curriculum planning activities were spearheaded by a committee formed with representation from each of the programs. A decision to create an integrated and conceptually-based curriculum was made and the task of developing the new curriculum was undertaken. The result was a curricular structure with an adaptation theme based on the work of theorists such as Helson (1964). After implementation, however, it became evident that this framework provided little direction for the assessment of patients or for the formulation of nursing diagnoses. A curriculum evaluation subsequently substantiated the weaknesses. At this point and again under the leadership of a combined institutional committee, a curriculum revision project was undertaken and the decision to adopt a nursing model as the nursing conceptual basis for the program was made.

In the search for an appropriate model, subcommittees were formed to identify potential models and an analysis of the personal models of the faculty members was conducted. This analysis revealed a diversity of approaches to nursing practice and no consistent framework emerged. Out of this process, seven potential models were identified for further investigation. The planning process also involved research into the implications of nursing models for education and practice.

The Committee was concerned that the selected nursing model not only align with the philosophy of faculty members but that it promote the development of a nursing focus in the curriculum and provide a guide for nursing activities. The Committee recommended that the Roy

Adaptation Model be given serious consideration. Pros and cons of the model were discussed on each campus and eventually, although there were some individuals demonstrating reservations, consensus was achieved and the Roy Model was selected as the framework for the knowledge component of the conceptual framework for curriculum development.

As the curriculum development progressed, all faculty members undertook in-depth study of the model. Essential concepts were identified and curriculum development proceeded with representation from the three faculties and instructors from the support courses. The curriculum based on the Roy Model was implemented in September of 1981.

The Conceptual Framework

The conceptual framework of the Algonquin College Nursing Program addressed three primary components: nursing, the learners and the learning process, and the environment in which learning and practice take place. As was mentioned earlier, the focus of this research was on the conceptual description of nursing; the importance of the other two components (the setting and the students) was acknowledged.

The nursing component of the conceptual framework addressed the five concepts typically identified in the nursing literature pertaining to conceptual descriptions of nursing (Roy, 1984:8, for example): the recipient of care, the goal of nursing, health, the environment, and nursing care. The Roy Adaptation Model was specifically identified as the conceptual model forming the basis for the "Nursing" component of the conceptual framework as evident in the following quotation: "Algonquin College Nursing program has adopted Sister Callista Roy's

Adaptation Model." Statements related to each of the five concepts had been derived from the Roy Model and directly reflected concepts inherent in the model. Adaptation of the concepts described by Roy (1984) for program purposes was evident in the few instances noted in the following discussion.

In the description of the recipient of nursing care, the spiritual aspect was selectively emphasized whereas Roy (1976:11) described the person as a biopsychosocial being with the spiritual aspect being viewed as part of the psychological nature of the person. It was not clear how the segregation of the spiritual nature of the person had been operationalized in the curriculum at the Woodroffe Campus and upon inquiry, it was explained that this decision originated from the time of the amalgamation of the three programs, and that, prior to that, at least one of the programs had been affiliated with a religious organization. It was felt that the curricular evidence of this selective emphasis of the spiritual aspect of the person would be more evident in that particular program.

Another modification to the model was evident in the manner in which the College described nursing activities. The first three steps of the nursing process (assessment of behavior, assessment of stimuli, and nursing diagnosis) were amalgamated into one phase and "interpretation" was added to observation, interviewing, and measurement as the skills inherent in the assessment phase of the process. This was done to reflect the Standards of Practice for Nurses and Nursing Assistants (Ontario College of Nurses, 1986).

An additional document (March 1986) elaborated on the essential concepts of the nursing model. The adaptation problems that had been selected for program purposes varied slightly from those presented in recent writings on the Roy Model (Roy, 1984). However, they were compatible with and tended to reflect the problems identified in earlier writings (for example, Roy, 1976).

The use of the term "adaptation problem" appeared to differ from that prescribed by Roy. The term was used to describe both ineffective behaviors and the problems that were set forth as priority concerns in the nursing diagnosis step of the nursing process. Although these two aspects are very closely related, they can be distinguished as two separate concepts and it was unclear as to whether they were viewed as one and the same in the curriculum or as different steps in the identification of patient concerns. When this observation was noted by the faculty, it was pointed out that, in practice, use of the term "adaptation problem" does reflect that prescribed by Roy.

Despite the few differences that have been identified, the nursing component of the conceptual framework was clearly based on the Roy Adaptation Model. The changes appeared to have been developed to suit program purposes and the two other components of the curriculum framework--the learner and the environment.

The focus in the following section is the manner in which this conceptual framework has been reflected in the sixteen curricular dimensions identified as relevant for this research. Each dimension will be dealt with individually through description and analysis.

Findings

Within the conceptual framework adopted for this research, as described in Chapter 1, sixteen curricular dimensions were identified as relevant in determining the degree to which the selected nursing model had been implemented in the program. Where approprate, evidence was sought regarding the presence of the four elements of the nursing model: the person, the environment, health, and nursing. The data were obtained by interview of faculty members, a questionnaire given to students, observation in teaching situations, and analysis of curricular documents. In the following section, the findings of these data-gathering activities relative to each of the curricular dimensions are presented.

Promotional Materials

For purposes of this research, promotional materials were defined as those communications that serve to portray the nursing program for the general public and for prospective students. The promotional information reviewed consisted of a one-page information letter pertaining to the full-time day nursing diploma program. In addition to identifying the locations of the three campuses that offer the nursing program, a number of topics and program details were addressed: the career, the program of studies, the college year, admission requirements, application procedures, costs of the programs, and job placement opportunities.

In the description of the program of studies, nursing was described for each of the three years. Nursing in the first year was described as "basic knowledge, skills and attitudes in meeting the health needs of relatively independent individuals and groups." The recipients of this care (the patients) were "relatively dependent individuals and groups" in the second year and "individuals and groups who are adapting to more complex problems related to major health problems" in the third year.

There was no explicit mention that the nursing program is based on the Roy Model, and the terminology used was compatible with nursing models in general rather that being specific to Roy. As such, the promotional materials did not specifically reflect the elements inherent in the Roy Model.

Philosophy

The philosophy statement derived for the Algonquin College Program reflected basic beliefs about man, nursing, learning, and nursing education. In keeping with the idea that the philosophy should be a statement of beliefs about concepts rather than extensive definitional and descriptive material (for example, Peterson, 1977:27), it was specified that the concepts are elaborated further and described in the conceptual framework.

The two concepts that pertained particularly to the purposes of this investigation were "man" and "nursing" and these are quoted:

> We believe that each human being is a unique and valuable individual with the potential to learn and to grow. Individuals have goals which they seek to fulfill. The meeting of these goals should be facilitated without denying or restricting the rights of others. Individuals have the right to make choices and are responsible for the choices they make.
>
> Nursing is one of the health disciplines which has as its primary focus the promotion of health. It provides a service that is preventive, therapeutic, supportive and rehabilitative. Nursing

> assists individuals, families and groups to attain, maintain or regain optimum health and provides support and comfort to dying patients and their families. Nurses achieve these goals by assisting people to reorganize and utilize their own resources and/or by providing additional resources. Nursing collaborates with other disciplines and clients to assess health care needs, to plan, to implement care, to attain goals and to evaluate health goals. The specialized body of knowledge which provides the foundation for nursing practice evolves from research in nursing and related areas; it draws from and contributes to other disciplines and sciences.

It was not expected that philosophical statements should identify or quote the respective nursing model but there must be evidence of compatibility between the two. As with the promotional materials, terminology used in the philosophy was compatible with nursing models in general and not specifically attributable to the Roy Adaptation Model. As such, the statement of philosophy did not specifically reflect the elements of the Roy Model. The two documents appeared to be compatible.

Terminal Objectives

The terminal objectives of a nursing curriculum represent the competencies that the individual should demonstrate upon graduation from the program of studies. The terminal competencies of the graduate from the Algonquin College Nursing Program were addressed in two documents entitled "Program Aims" and "Program Behaviors."

The statement of program aims consisted of four behavioral statements related to level of practice and legal parameters, function, roles, and type of agency. They addressed primarily what the graduate is prepared to do.

The statement of program behaviors addressed three major topics pertaining to the manner in which the graduate will function: the application of knowledge, the use of the nursing process, and the responsibility for professional and personal growth. The first two topics were of particular significance for purposes of this research. They are quoted below and the elements inherent in the Roy Adaptation Model are underlined.

Upon completion of the Nursing Program, graduates will:

1. Use adaptation theory as described by Roy to explain how people respond to a constantly changing environment to maintain biological, psychological, social and spiritual integrity.
    1.1 Describe the person as an integrated biopsychosocial and spiritual being in constant interaction with a changing internal and external environment.

    1.2 Understand how adaptive mechanisms allow each person to adapt to focal, contextual and residual stimuli according to his/her own individual potential.

    1.3 Use concepts and principles from the biological and social sciences to explain adaptation in four modes: physiological, self-concept, role function and interdependence.

    1.4 Recognize that health and illness, stages of the life cycle, environment and lifestyle are dynamic dimensions of life and impact the person as an adaptive system.

    1.5 Respect each person's uniqueness and right to self-determination.

2. Use the nursing process to individualize patient care and promote adaptation in the four modes.
    2.1 Collect and interpret data from a variety of sources to identify adaptive responses and adaptation problems.

    2.2 Develop an individualized plan of care which identifies priorities and includes realistic patient-centered goals.

    2.3 Carry out the plan of care by managing stimuli.

    2.4 Evaluate the effectiveness of their nursing care and modify the nursing care plan as necessary.

The Roy Adaptation Model was explicit in the statement of program behaviors with specific reference to the person, the environment, and the goal of nursing. The adaptations to the model as identified in the discussion of the conceptual framework were also evident in the presentation: the addition of the "spiritual being" to the description of the person, and the amalgamation of the first three steps of the nursing process. Another program-specific feature was noted in relation to factors influencing a person's behavior. Objective 1.4 specified health and illness, stages of the life cycle, environment and lifestyle as factors that could be considered common stimuli affecting all people.

Many other features inherent in the Roy Model could be isolated in the program behavior statements but, in that these features were common to other nursing models, as well, they were not extracted for discussion.

Curriculum Structure

The structure of a curriculum consists of the manner in which courses of study are organized and how content is integrated to facilitate the student's achievement of the terminal outcomes of the program. Peterson (1977:28) referred to the content of a nursing program in terms of major content areas or blocks, horizontal content threads, and horizontal process threads, all of which are influenced by the conceptual framework and, particularly, by the nursing model.

Major content areas.

The curriculum structure of the Algonquin College Nursing Program consisted of six semesters, each sixteen weeks in length. "Adaptation problems" appeared to constitute the major organizing concept for the content areas. The types of agencies used for clinical experience provided an indication of factors that could be considered major content areas. In Semester I the students focused on healthy individuals in settings such as day care agencies, nursery schools, and prenatal classes, and homes for the aged. Semester II clinical experience took place in clinical agencies assoicated with life cycle events: post-partum and well-baby nursery units, schools, and settings with elderly people. In Semester III, the students encountered individuals in the hospital, rehabilitative, or extended care settings who were experiencing health problems but were not considered seriously ill. As the remaining semesters progressed, the complexity in terms of the number and interrelatedness of the health problems experienced by patients increased.

Process threads. Process threads are concepts that are emphasized throughout the curriculum with increasing expectation of student skill relative to the specified concept. Three "major curriculum threads" were identified in the curriculum documentation: the person adapting, the nursing process, and personal and professional growth. These three concepts formed the basis for nursing courses throughout the six semesters of the program and were directly related to the program behaviors identified in the previous discussion.

Inherent in the concept "the person adapting" was the description of the person as articulated by Roy (1984) and "the nursing process" reflected Roy's nursing process as it had been adapted for use in this program, that is, with the amalgamation of the first three steps into one assessment phase.

Content threads. Content threads are those concepts that are integrated throughout the curriculum and introduced in a progressive manner. Although the nursing process was identified as a process thread in previous discussion, it was also viewed as a content thread in the first year of the program. In Semester I, the students focused on the assessment phase of the process, primarily assessment of behavior and stimuli, while in Semester II, the remaining steps of the process became part of the expectations. From there, the nursing process became a process thread.

Adaptation problems constituted a content thread in that the level of patient progressed from the healthy individual in Semester I to the seriously ill person in Semester VI. Where Semester II dealt with adaptation problems caused by developmental stimuli, Semester III introduced problems arising as a result of illness, stress, diagnostic procedures, and medical treatments. Semester V focused on patients with multiple adaptation problems. The four modes were the major content organizer for Semester I and adaptation problems became the major content organizer from Semester II on.

The four modes became content threads, as well as process threads, when the specific clinical posting called for a focus on a particular mode or modes. For example, in a psychiatric setting, the emphasis tended to be on the three psychosocial modes.

Although their curricular role was not quite as clear as the previous three content threads, "behavior and stimuli" appeared to assume a progressive profile in the curricular structure as well. There appeared to be progression from an emphasis on environmental and life style stimuli and related behavior to developmental stimuli, and from there to stimuli associated with pathophysiological and psychopathological problems.

Analysis of this curricular structure in terms of the Roy Adaptation Model indicated that two major elements with their related concepts had a primary influence on the program: the person as an adaptive system, and the nursing process. The concept of "the environment" exhibited a minor influence while the concept of "health" occupied a more implicit role.

Course Content

As specified earlier, course content relates to the specific facts, concepts, principles, and thought systems that are included in the curriculum. Flaskerud (1983:226) suggested that the nursing model should provide the guidelines for the content of all courses in the curriculum and provide direction for the selection of support courses. The importance of support courses in providing content from associated disciplines was acknowledged. In this discussion, however, particular attention is directed towards the content of the nursing courses.

The nursing courses in the Algonquin College Program included theory, laboratory, and clinical practice. Objectives were structured around the three previously identified concepts: knowledge of the person adapting, knowledge and ability to use the nursing process, and professional and personal growth. Again, the first two related particularly to the nursing model.

The content related to the first concept consisted of four specific topics: (1) behaviors as related to adaptation problems, (2) stimuli as related to specific adaptation problems under consideration, (3) the nature of the four modes, and (4) the application of knowledge from related disciplines. Knowledge and ability to use the nursing process related specifically to each of the four steps of the nursing process as identified in the conceptual framework.

The course descriptions provided a picture of the content of the nursing courses as it progressed throughout the curriculum and these are quoted. Concepts directly attributable to the Roy Model are underlined.

> **Nursing Theory I** - This course introduces the student to the concepts of the adaptation model of nursing as described by Roy. The students are given an overview of the nursing process with specific emphasis on Levels 1 and 2 assessment and the skills of measurement, observation, interviewing and interpretation.
>
> **Nursing Theory II** - Building on the previous semester, this course introduces the student to the concept of the life cycle as a stimulus affecting man's adaptation in the four modes. Using Level 1 and 2 assessment, the student develops statements of real or potential adaptation problems related to man's movement through the life cycle, develops short term goals based on the adaptive problems, and learns to manage stimuli to promote adaptation.
>
> **Nursing Theory III** - Building on the previous semesters, this course introduces the student to the concepts of stress and the experience of illness as stimuli affecting man's adaptation in the four modes.
>
> **Nursing Theory IV** - Building on the previous semesters, this course focuses on the adaptation problems in the four modes arising from common health problems experienced by individuals of any age.

> **Nursing Theory V** - Building on the previous semesters, this course focuses on the adaptation problems in the four modes arising from more complex health problems experienced by individuals of any age.
>
> **Nursing Theory VI** - This course focuses on the role transition from student to graduate. Discussion will include leadership, autonomy, reality shock, preparation for registration examinations and ongoing learning, and issues and trends affecting nursing.

The concept that recurred throughout Semesters II to V was "adaptation in the four modes"--a concept inherent in Roy's description of the person. Various steps of the nursing process appeared to be emphasized at different levels. For example, Levels 1 and 2 assessment (assessment of behavior and stimuli) were specified in Semesters I and II while intervention ("managing stimuli to promote adaptation") was segregated in Semesters II and III. The increasing level of complexity of adaptation problems was evident as a content thread throughout the courses.

It was pointed out that a review of the Roy Adaptation Model was provided at the beginning of each year following the four-month summer break and that towards the end of the program, there was an attempt to relate terminology associated with the model to nursing literature in general and particularly that associated with nursing diagnoses.

Introductory Nursing Course

> To make students aware, the conceptual model must be taught as content. It becomes their first course in nursing: a general course based on the nursing model that explains what nurses do, or the object of nursing, and how they do it, or the process of nursing (Flaskerud, 1983:226).

The introductory course in nursing (Nursing Theory I) directly reflected Flaskerud's statement as was evident in the following description of the introductory nursing course.

> [The introductory course in nursing] introduces the student to the concepts of the adaptation model of nursing as described by Roy. The students are given an overview of the nursing process with specific emphasis on Levels 1 and 2 assessment and the skills of measurement, observation, interviewing and interpretation.

The objectives for the course related to the two primary topics of "the person adapting" and "the nursing process." At the completion of the course and in relation to the first topic, the students were expected to

1. describe the individual in terms of Roy's Adaptation Model of Nursing,
2. describe common behaviors which indicate adaptation in the four modes,
3. describe common stimuli which affect the individual's adaptation in the four modes, and
4. use concepts and principles from the biological and psychosocial sciences to describe effective adaptive responses of healthy people.

In relation to the nursing process, the students were expected to

1. describe how the nursing process is used to promote adaptation,
2. use skills of observation, measurement, interviewing, and interpretation to:
   a. assess responses of healthy individuals in the four modes, and
   b. identify stimuli which influence adaptation within the four modes.

In describing the introductory nursing course, one faculty member stated,

> We start right off with the Roy Model in the first week and give them [the students] an overview which is about a six-hour overview of the whole model and we focus on the input and the output to the system. We introduce the coping mechanisms. We introduce the modes but we do not introduce the adaptation problems . At this point [October], we have covered our introduction. We focus on the nursing process after our introduction as a means of accomplishing our nursing activities. The things that we focus on at the Year I level are the skills that one uses to assess. So we're focusing on

> observation, interviewing, and measurement. Right now, the students would be capable of identifying behaviors in terms of our Level I assessment and identifying stimuli influencing behaviors and they are doing that in the clinical setting right now.

It was evident that the Roy Adaptation Model was the essence of the introductory nursing course. Elements that were explicitly identified were "the person" and "the nursing process." Also implied by the terminology used in the objectives were "the environment" (stimuli which affect the individual's adaptation), "the goal of nursing" (how the nursing process is used to promote adaptation), and "health" (effective adaptive responses of healthy people). Thus, all of the major elements of the Roy Model were evident in the introductory nursing course. The program adaptations of the model as described in previous sections were also in evidence.

Patient Assessment Tools/Procedures

The development of guidelines for the assessment of patients is always a particular challenge for nursing faculties. According to Flaskerud (1983:226), the conceptual description of nursing should provide guidelines for the tool that will be used in clinical practice for the assessment of the patients' health status prior to determining the required nursing care.

The faculty at the Algonquin College Nursing Program developed a comprehensive list of "behavioral indices" to assist the students in the assessment of patients. It was stated that the behavioral indices were intended to

1. provide a concrete guideline (tool for assessment),
2. provide standardization and uniformity in data collection,
3. identify essential data necessary in the modes/needs,

4. include data collected through observation, measurement, and interviewing in each of the modes/needs.

The behavioral indices were organized according to each of the four modes and the related needs and adaptation problems as they were adapted for use in this particular program. Behavioral indices were then identified for each of the adaptation problems. For example, Table 5.1 illustrates the behavioral indices for one of the needs in the physiological mode (nutrition) and the related adaptation problems. Each behavioral index was subsequently listed alphabetically, defined, and the details of assessment were specified. In keeping with the decision to amalgamate the first three steps of Roy's nursing process into one assessment phase, adaptation problems associated with each of the four modes were identified and defined.

When commenting on the behavioral indices, one faculty member stated,

> They [the indices] are something that are revised about every year and I think they get better every year. I think what we'll be doing now is paring them down so that you are not collecting a lot of extra information that is not necessarily related to the need that you are looking at. So for my purposes, the indices work very well. We teach the student to use them as a guideline . . . for collecting data on a client. They seem to have been very successful because they provide some uniformity on the data that's collected and they do help you collect data related to the need that you are looking at. I think that, for the students, they are a very helpful tool.

Several faculty members commented that, for their particular clinical areas, they tend to focus on selected indices because the entire list is too comprehensive for their purposes. Others acknowledged that, by attempting to use the entire list of indices in patient assessment, there was much confusion and overlap. One faculty

Table 5.1

Example of Behavioral Indices for the Need for Nutrition

Need	Behavioral Indices
Nutrition	
-malnutrition - under and over nutrition including obesity -nausea and vomiting	eating patterns body size and proportion activity pattern emotional status related diagnostic tests expressions of comfort/ discomfort condition of tissues cognitive status

member commented "The biggest problem is to come up with some tool to assist with data collection."

In assessment of the extent to which the Roy Model was evident in the behavioral indices, it was obvious that the indices had been compiled on the basis of Roy's four modes, their related needs and adaptation problems as they had been adapted for use in the program. Faculty members also noted that Roy (1976) and Roy and Roberts (1981) together with the nursing diagnoses compiled by the North American Nursing Diagnosis Association (Gordon, 1984) had served as the basis for the identification of the adaptation problems.

Classroom Activities

The Algonquin College nursing faculty had developed, as part of the curricular materials, comprehensive workbooks designed to assist the students in meeting course objectives. Course objectives were identified and the related learning activities were specified, some to be done in class and others to be considered independently. Since the workbooks were based on the course objectives, both the class objectives and the learning activities reflected the nursing model. This was particularly evident in the workbook used early in the program. The structure of the program and the categorization of course objectives into the three previously mentioned topics provided a framework based on the Roy Model. As the program progressed, adaptation problems became the organizing framework for the presentation of content. In addition, in discussion of each adaptation problem, the steps of the nursing process were addressed.

One concern voiced by a number of faculty members related to the appropriate place of pathophysiology in the classroom activities. It was recognized that the disease entity, as an important stimulus for the patient, must be considered in discussion of the nursing activities associated with the particular adaptation problem, but the difficulty in determining and achieving an appropriate emphasis on pathophysiology in the class presentation represented a dilemma.

This concern was evident in one of the classes attended during the site visit. Although there was a conscientious attempt to relate discussion to concepts inherent in the Roy Model and the material being addressed was accomodated within the framework of the model, it seemed that pathophysiology did consistute the major focus in the discussion.

The influence of the Roy Adaptation Model with respect to classroom activities was evident throughout the workbook materials. Again, as with course content, the structure provided by the course objectives ensured this framework.

Although it was possible to spend some time in observation of classroom activities, it was not possible in the time available for this activity to obtain a comprehensive picture of what was happening in the classroom relative to the model. Thus, the use of the objectives in actual classroom activities could not be assessed in light of the limited exposure of the researcher to the classroom situation. As mentioned in Chapter 1, this was a limitation in the study.

Clinical Activities

Clinical experiences in a nursing program involve practical experiences in the care of individuals in a clinical area. Peterson (1977:32) stated that "clinical assignments, care plans, and conferences related to clinical activities [should] reflect the conceptual framework." The assessment of the clinical impact of the Roy Adaptation Model in the Algonquin College Nursing program was based on analysis of descriptions of the clinical component of the program, comments by faculty members during the interview sessions, and the questionnaires completed by selected students.

The following statements were the descriptions of the clinical components in the nursing program (underlining designates terminology inherent in the Roy Model as opposed to nursing models, in general):

> **Nursing Clinical I** - Students use assessment skills in clinical practice areas to assess common adaptive responses of healthy people and common stimuli influencing adaptation in four modes.

Nursing Clinical II - Students apply knowledge and skills related to promoting adaptation [in] the various age groups in institutional settings and other community facilities.

Nursing Clinical III - The student applies the nursing process in acute care settings to promote adaptation in individuals experiencing adaptation problems arising from selected situations of stress and illness.

Nursing Clinical IV - The student will be required to demonstrate an increasing capacity to apply the nursing process in more complex situations. Opportunity will be provided for the student to practice in a variety of settings.

Nursing Clinical V - The students will be required to apply the nursing process with increasing independence and in situations requiring more rapid decision making. Opportunity will be provided for the student to practice in a variety of settings.

Nursing Clinical VI _ This experience is designed to help the students make the transition from student to practitioner. Students will be required to apply the nursing process to care for a group of individuals experiencing adaptation problems arising from a variety of health problems. Students participate as active members of the nursing team and experience situations involving increased collaboration with members of the health care delivery system.

Explicit reference to the Roy Model was more evident in the description of early clinical experience although the implicit effect of the model was inherent in the frequent reference to "the nursing process", the understanding being that this term referred to the four step adaptation of the Roy nursing process as was described in the conceptual framework.

For each of the nursing courses, in addition to course objectives, "mandatory performance behaviors" were enumerated for each semester. These behaviors pertained to clinical performance and served to explicitly operationalize the nursing model in the clinical setting. Terminology used in the objectives was reflective of the Roy Adaptation Model.

It was recognized that, with a framework for clinical experience such as that described above, certain clinical applications of the nursing model were inherent. For example, most faculty who were interviewed reported using the assessment process as described in the model as a framework for the discussion of patients in clinical conferences. In addition, written clinical assignments were structured on the basis of the nursing model.

There were some problems identified by faculty members related to the use of the model in the clinical setting. One person suggested that there were problems (unspecified) when the practice setting is not using the nursing model. In a similar vein, another person stated, "The biggest problem in the service area is that [the value of a nursing model] is not recognized." Other faculty members did not feel that the absence of a nursing conceptual framework in the practice setting presented problems for the students.

It was evident that the structure for clinical experience in the Algonquin College Program was based on the Roy Model with particular emphasis on the nursing process. How this structure actually influenced performance in the clinical setting could not be determined without in depth observation in the clinical area and this activity was not attempted during the site visit to the Algonquin College Nursing Program. This factor constituted a study limitation.

Assignments

Peterson (1977:32) suggested that student assignments such as work sheets, projects, and case studies should provide evidence of the operationalization of a nursing model in the curriculum. During the site visit, it was possible to review a number of major assignments required of the students throughout the program.

One assignment required in Semester I was entitled the "nursing process assignment." The focus of this assignment was on the assessment of behavior and stimuli as related to two needs. Reporting of the data required information on indices, behaviors, rationale (how behaviors related to the need and mode being assessed), stimuli, and associated rationale (how stimuli influenced behavior).

Another document that provided an indication of the requirements for assignments was the "Assignment Evaluation Checklist." This checklist was submitted with assignments and identified criteria against which the assignment would be evaluated. The criteria addressed both knowledge of the person as an adaptive system and the nursing process as described in the Roy Model.

The assignments that were reviewed were structured around the Roy Model with particular emphasis on the elements of the person and the nursing activities related to the assessment of behavior and stimuli.

Examinations

It was possible for the researcher to review sample examinations from each level of the nursing program during the site visit. Examinations were assessed for the manner in which items referred to specific terminology associated with the Roy Model.

It was noted that the majority of items in the multiple choice examinations directly reflected concepts inherent in the model and that all items could be accommodated within the framework of the model. For example, health problems were referred to as stimuli, modes were referred to frequently, specific steps of the nursing process were identified, and Roy's description of the person was evident throughout the examinations. One faculty member stated, "All exam questions that involve nursing process must reflect the model." This person proceeded to state that this sometimes caused problems in the construction of examination items.

Another faculty member expressed concern about the focus on the model in exam situations:

> We . . . almost manipulate our test situations so they will fit the model and sometimes I think we sacrifice the viability, at least to some degree, of the test item or items because, by shoving that square peg into that round hole, we render it a less viable item or we almost give the answer away. . . .We give them objective tests for the better part of three years that are extensively model based . . . and yet when they write their R.N.'s, they won't see that type of structure reflected.

Although the above comment expressed some reservation and concern about heavy emphasis on concepts associated with the Roy Model in examination items, the fact remains that there was extensive evidence of the influence of the model through the examinations that were reviewed.

Course Bibliographies

As was identified in Chapter 2, course bibliographies may provide some indication of the operationalization of a nursing model in a curriculum. During the site visit, it was possible to review additional references that were part of the workbook materials in each level of the program.

It was noted that Andrews and Roy (1986) was a required text for the program and this book was used extensively throughout the first semester. Reference was made to Roy (1984) and Roy and Roberts (1981) in the Semesters III, IV, and V workbooks. The remainder of supplementary references were journal articles related to the particular adaptation problems under consideration. Several faculty members commented on the usefulness of Andrews and Roy (1986) as a text for the students even though the manner in which the model was adapted in the Algonquin Program was not entirely consistent with the concepts described therein. It was also mentioned that there was extensive use of Roy-related references in the development of course content and workbook materials.

Student Evaluations

Student evaluation in the Algonquin College Nursing Program was directly related to the three organizational concepts: knowledge of the person adapting, knowledge and ability to use the nursing process, and professional and personal growth. One particular document, the "Performance Evaluation Report," was the focus of the assessment of the student evaluation procedures used in the nursing program.

Evaluation of students, as described in the "Guidelines", was based on the objectives for the nursing courses in each semester of the program. Course objectives were viewed as

> Learning outcomes which are to be achieved at the termination of the semester nursing course through the combined experience in classroom, laboratory and clinical practice. The final grade in nursing expresses the student's level of success in meeting the course objectives.

Associated with each course objective were mandatory performance behaviors which were defined as "behavioral outcomes which are related to the objectives and are to be demonstrated in the practice setting by the end of the semester."

An example of the course objectives and related mandatory performance behaviors is contained in Appendix G. It was evident in that document and in associated documents for the first five semesters that the Roy Adaptation Model formed the basis for student evaluation with explicit reference to Roy's description of the person and the nursing process as adapted for use in this program. Application of the concepts of the environment, the goal of nursing, and health were implicit in the evaluation documents.

Faculty Evaluations

Information about faculty evaluation procedures was obtained primarily during the interviews. The objective of this assessment was to determine the extent to which the individual's use of the model in teaching situations was considered in performance evaluation. Four main evaluation procedures arose during discussion: informal evaluation, unit evaluation by students, peer evaluation, and formal performance review.

Several faculty members mentioned that the evaluation that they received regarding their use of the Roy Model was primarily informal in nature and, as such, provided by students in the practice situation or by peers, primarily during faculty meetings. Informal peer input pertained mainly to the assessment of prepared teaching materials.

Application of the model was indirectly assessed in the unit evaluation forms completed by students. The extent to which the faculty member focused on the course objectives was addressed and, as identified in earlier discussion, the course objectives clearly reflected the concepts inherent in the model. According to one faculty member, however, this indirect reference to the model did not typically elicit input related to faculty use of the Roy Model in the teaching situation. Another person did not feel that the students had the ability to assess the manner in which the instructor used the model.

A number of faculty members mentioned that they had used peer evaluation as part of their data gathering procedures for a formal performance appraisal; others suggested that there was no opportunity for peer evaluation in their particular instructional situations. One faculty member expressed concern about the effectiveness of peer evaluation in her situation, suggesting that there existed some reluctance to criticize one's peers: "I find it really hard to be honest." The following quotations illustrate some perceptions of peer evaluation expressed by faculty members during the interviews:

> I do not have the opportunity to call on my peers to come to the clinical setting.
>
> I have never had another instructor come into the clinical area and watch me or talk to me about how I implement [the model]. I have often wished that I'd had that.
>
> If I feel confused about something and I go to someone and say, "This is what I'm doing and it doesn't seem to be working--what do you think?," I find that I'm not getting a lot of what I would call helpful feedback because people, I think, are afraid to say--first of all, to reveal what they're doing. I think there is some anxiety about whether or not each one of us, when we actually get out there alone, in terms of implementing [the model]--that we're

> doing it right because it is new to us and there are uncertainties. People are reluctant to criticize in the negative sense.

> Peer evaluation is a funny thing. . . .It's often hard to tell your co-worker that they're not doing something properly or that you don't think they are. Do you have the data to prove it? Do you want to make hard feelings if the person accepts it that way? I don't know if we're very good at doing that. . . .We know each other so well . . . weaknesses have been there forever, strengths, have been there forever. What's the point in telling them that they do this or that if they can't or won't change.

The evaluation tool used for the assessment of faculty performance was an instrument used throughout the college system. The College evaluation format did not specifically address the use of the model by virtue of its purpose. It was generally felt by faculty members who were interviewed that their personal use of the Roy Model was not evaluated on a formal basis but that there were informal means to obtain such input.

Faculty

Both Stevens (1979:130) and Peterson (1977:32) have stressed the importance of faculty use of the nursing conceptual model in a curriculum. The basis for the assessment of the extent to which faculty at the Algonquin College Nursing Program had implemented the nursing model in their teaching situation was the Levels of Use focused interview as described by Loucks et al. (1976:21). By conducting Levels of Use interviews, it was possible to rate individuals according to operationally defined patterns of innovation use and in relation to behaviors exhibited in each of seven categories of performance. The framework according to Hall et al. (1975:54) was described in Chapter 3 and fully operationalized in Appendix A.

Twelve interviews were conducted with randomly selected faculty members. Each interview was rated according to the procedure described by Loucks et al. (1976:41). As illustrated in Table 5.2, five individuals were rated as limited users; three were routine users; two demonstrated refinement; one, integration; and one, renewal. This spread of ratings reflected the emphasis that was placed on the nursing model in later stages of the program. There was evidence both in the curricular documents and in the interviews with faculty members of heavy emphasis on the model in the first year and lessening emphasis as the students progress through the program until, in third year, its application was considered to be automatic. Some statements of faculty members served to clarify this observation:

> What is being attempted in third year is to render the model practical, workable in terms of the workplace. Individual teacher's application is very individual both clinically and [in the] classroom.

Again referring to the third year, one individual stated,

> Some of the [material] is assumed, we're not spending as much time actually working with the model. We assume that the model is going to be used and our energy has gone back to looking at health problems.

Rating of the Levels of Use interview also involved the development of a category profile for each person relative to seven behaviors associated with the use of the innovation, in this situation, the Roy Adaptation Model. These category profiles are illustrated in Figure 5.1. Operationalization of each of the categories as they relate to the various levels can be found in Appendix A and for the "Limited Use" category, developed for purposes of this study, in Chapter 3. The

Table 5.2

Levels of Use Ratings for Faculty Members

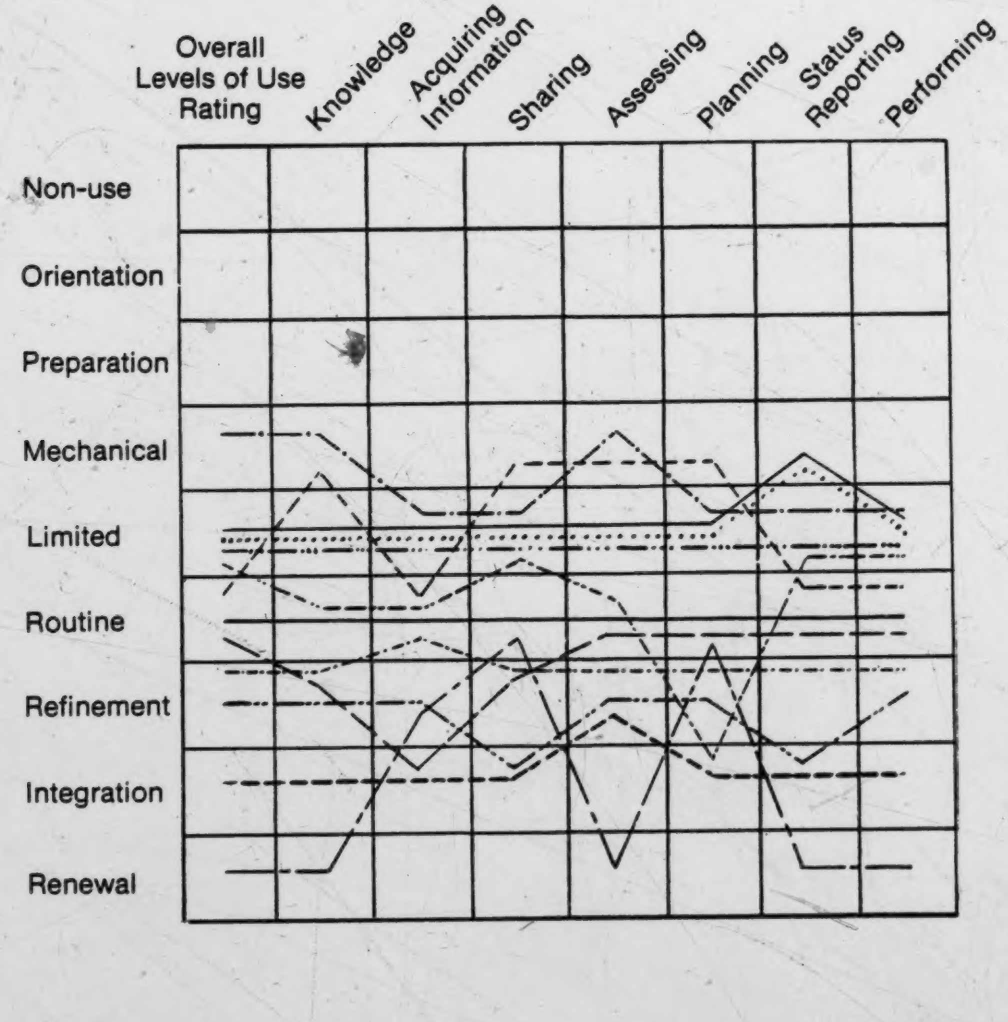
(Algonquin College)

Level of Use	Number of Faculty	Percent
Non-use	-	-
Orientation	-	-
Preparation	-	-
Mechanical	-	-
Limited	5	41.7
Routine	3	25.0
Refinement	2	16.7
Integration	1	8.3
Renewal	1	8.3
Total	12	100.0

Figure 5.1

Category Profiles of Interviewees

(Algonquin College)



implications of the Levels of Use category profile will be addressed in the interpretive discussion in Chapter 8.

Throughout the course of the interview, each individual was asked to identify the strengths and weakness that they perceived in relation to the use of the model in their teaching situations, both in the classroom and clinically. In relation to strengths, a number of individuals identified factors that could be classified as organizational features. According to these people, the model provided

> an organizer . . . for the delivery of curriculum materials and for the students' thoughts.
>
> the organization of nursing care . . . [The model] helps set priorities . . . provides greater continuity.
>
> a way to look a data collection in a systematic way and a way to look at the delivery of care. It's strong in the clinical area.
>
> a framework for theory and practice.
>
> the best tool for assessment that I've come across.

Other comments identified the focus on nursing content that was provided by the model. One faculty member stated,

> We have learned how to integrate the medical model but not to focus on it. We have more problems and we might slip back sometimes but I do think that we have become much more nursing focused in a rational way.

Another person suggested that the model "forces the nurses to look at things that they can do something about."

Weaknesses associated with curricular use of the model were categorized into five areas: program organization (including the emphasis placed on the model), the understanding of concepts, student difficulties, practice-related comments, and comments regarding commitment to the use of a model. Each of these areas of concern is illustrated in the ensuing discussion.

Program organization. Some of the comments related to program organization pertained to the presentation of the model in the first year of the program. The following comments illustrate these concerns.

> You give them [the students] the whole and then you start to break down the parts and then I think you lose sight of the whole. We talk about all the steps of the nursing process and then we can't really talk about intervention until Semester II; we're focusing on mainly Level I and II assessment. You have to keep putting up the paradigm of the nursing process and saying this is where we are.
>
> There's a problem with unfolding the model and then practicing it [at] the same time.
>
> So much emphasis is placed on learning the rudiments of the model in the first year that the perception [that the Roy Model is the only one] may be conveyed. Also the simple usage of time--the major focus of first year has always seemed to be the learning of the model to the extent that [in second and third year] there's an awful lot of ground to be covered at a horrendous pace.

Related to this last comment was one observation related to cross-year faculty concerns:

> There is a lot of feeling from year to year that the students come unprepared. . . .We've had a real struggle with levelling and . . . having confidence in what has been accomplished in each year of the program. Part of the problem is that we don't have, other than the curriculum committee, a way of working with the teachers in the next years of the program . . . to explain what we do or how we do it and making them feel more comfortable that some of the things the students don't have is not all the fault of the program or the teacher. I think when you have the program . . . with the four or five month break, [it] makes a big difference to what the student will be able to do when they get back in September.

This person felt that movement of faculty from year to year would help to solve the problem:

> It makes a big difference to how confident you feel in what you're giving at this level because you know what they [the students]

> are going to be doing at the next level and that they are, in fact, getting the foundation . . . you know what to draw on.

Understanding of concepts. A second area of concern related to curricular implementation of the model with respect to the understanding of concepts inherent in the model or those derived for curricular purposes at the Algonquin College Program. The following statements were examples of this type of concern.

> We still have some problems in implementing it [the model] here that have to do with mutual agreement about meanings attached to some of the things that we've developed that are different from what's in the original text.
>
> We spend a lot of time attempting to explain why something fits in a certain place and I wonder sometimes if that doesn't make using the model a little bit more onerous than I think it should be.
>
> [We have] problems in achieving mutual understanding regarding certain concepts. For example, there are problems with adaptation problems associated with role. We have considered "role transition" as a stimulus where Roy regarded it as an adaptation problem. [We also find it] hard to work with a healthy person with respect to "adaptation problems."
>
> We haven't looked to see if we are all on the same frame of reference. . . .by discussing it [a learning activity] as a whole group, they [faculty] found out just how many points of view people had about what is a behavior, what is a stimulus, whether it's focal, contextual, or residual, what do all these terms mean for a group. We have begun work on this.

One person, however, expressed concern about rigidity in the interpretation of concepts associated with the model:

> One of the big frustrations I have is that some of my co-workers view the model in a more rigid format than I do. To me, it's not the labelling of a behavior that's important, is whether you know what to do with that behavior. I prefer to think of the model more flexibly.

Some concerns were concept specific as was evident in the following quotations:

> Where is the appropriate place for the medical diagnosis in nursing care?
>
> What is the place of cognator and regulator mechanisms apart from physiology and how much emphasis should be placed on these concepts? We used to expect a fair bit of depth.
>
> We have a problem with the interdependence mode--there seems to be an adaptation problem missing.
>
> [I have a] problem with the four criteria for setting priorities, expecially discrimination among growth, reproduction, and mastery.

Student-related concerns. A number of faculty identified student-related concerns. These involved factors such as the background of the students who are accepted into the program and the response of the students to the place of the model in the program. Three of the interviewees expressed the following concerns related to the beginning students:

> Students are not used to thinking in a conceptual way. . . . To introduce them to the model initially, it's difficult for them to comprehend. Maybe we should be giving them some "settling-in" time.
>
> Students do not have the background to apply to the model right away.
>
> For some of our students . . . it's a sophisticated format . . . The whole process of conceptualizing is difficult for them. Sometimes I think a pre-nursing year would be better.

Other concerns related to the students' response to the model. One faculty member suggested that "the students find it laborious initially" while another expressed the concern about application in practice: "When we introduce the modes so separately, how do we make the student do a total assessment quickly?" Although one person identified "a real variance in the extent to which third year students apply the model", another person made the following comment:

> I think we are, at times, almost surprised how well and to what depth the students grasp the model, not only grasp it but see it as something they really use in practice--something that they won't leave when they leave the college.

Further light was shed on this issue by the student responses to the last item of the questionnaire. These data are presented later in this chapter.

Practice-related concerns. Another set of concerns related to the application of the model in the practice setting. Although some interviewees suggested that problems of using the model in the clinical setting were minimal, others expressed some concerns. One person suggested that "problems arise when the practice setting is not using the model. Terminology associated with Roy is not understood by practice people." It was noted, however, that students generally do not have a problem translating into readily understood terms. One faculty member stated that "the biggest problem in the service area . . . is that [the value of a nursing model] is not recognized" and proceeded to suggest that "it's the one thing that would bring service and education closer together."

One person pointed out that a real problem occurs when one nurse in the practice setting is responsible for directing the nursing care for the patient (primary nursing). It was noted that, in this situation, the student works primarily with the "primary" nurse; neither the students nor the instructors have much input into the nursing care that the patient receives. The role of the instructor becomes much more peripheral in nature and there is not as much opportunity for application of the model in patient care.

Faculty members pointed out many instances in which application of the Roy Model in the practice setting was working well. One idea that had been developed for the maternal-child experience in the second year of the program related to a combined "mother and baby as client" assignment. Students were expected to care for both the mother and her new baby and to document each of the steps of the nursing process as it related to the two individuals. The comment was made that the idea was receiving attention and commendation from nurses in the practice setting and was proving to be a very valuable learning experience for the students.

Commitment. Although there was evidence of a great deal of commitment to the use of a nursing model as the conceptual basis for the nursing program, a number of faculty members expressed some reservations about the overall utility of a model and the manner in which the Roy Adaptation Model had been implemented at the Algonquin College. The following quotations are examples of such concerns:

> There are times when I feel very uncomfortable about what we do . . . because I look on models as tools to use, to apply. I have difficulty when it becomes too regimented. It may be just my problem.

> I am still ambivalent about the use of models in nursing education. I see such a discrepancy between what we are teaching in our programs and what is being carried out in nursing practice--unless this will, over time, raise the whole level of nursing to what I would probably call the professional level.

This same person proceeded to note:

> We may become so elaborate in our data gathering, in our description of our plans or our evaluations . . . it is no longer a realistic, practical way of quickly identifying priorities of care. I believe that nursing care plans have a great inherent value. My

> question is. . . why is it that hardly any nurse currently, in my practice, at least, uses them? . . .Nursing care plans are hardly ever used and it is a tooth-pulling exercise between supervisors and their staff. There must be something wrong yet.
>
> In terms of my implementation of it [the Roy Model], I don't think that I may be as enthusiastic about it as perhaps the average teacher here might be because I see certain pitfalls. It's only one model of many. There is a danger if we become so sold on it--we give the student, as consumer, the wrong impression. I'm sure most of them [graduate from here thinking] that there's the Roy Model--that's it. I don't think we mention any other. What would happen to these students, having been exposed only to the Roy Model if they go to another agency that uses Orem or whoever else? I would like to see less of an emphasis on it.

This comment gave rise to conjecture regarding what actually does happen to the nursing model once the students leave the program. Although this consideration was peripheral to this research study and could indeed constitute an investigation in itself, several faculty members presented some perceptions regarding a graduate's use of the model. For example, one person, in commenting on graduates of the program, noted that they are well received in the clinical area. Another person suggested that "if students are not strong, they are not going to maintain the skill and knowledge developed in the program."

It was the overall perception of the researcher, in talking with the faculty members, that the more immersed in the model faculty members were by virtue of their teaching responsibilities, the more committed they were to the use of the model and the more evidence there was that it was influencing the manner in which they taught the students. Instructors that encountered the students early in the program were generally more comfortable with and committed to the model than were instructors who taught the students later in the program. Part of this phenomenon may be due to the student's capabilities in the use of the model in advanced stages of their program and the efforts of faculty members to integrate the students into the realities of the practice situation. There was evidence, however, that faculty members in the more advanced stages of the program were less committed, for whatever reason, to the use of the model than were faculty in the early portions of the program.

There was thus variance in the extent to which faculty members applied the Roy Model in their teaching situations. The majority of individuals interviewed gave evidence that they were using the model at least in a limited manner and by virtue of the structure of the curriculum and related materials. There were, however, both concerns and advantages associated with the manner in which the model had been incorporated into the Algonquin College Program and with the Roy Adaptation Model itself.

Students

The importance of student perceptions of the manner in which the nursing model has been incorporated into the curriculum was stressed earlier in this dissertation. According to Peterson (1977:32), students should be able to describe the nursing model, how it has shaped their program, and how they personally use it. The questionnaire described in Chapter 3 and contained in Appendix F was designed to assess these perceptions.

During the site visit to the Algonquin College Nursing Program, it was possible to give the questionnaire to students selected randomly by the researcher in each year of the program. Students were chosen by virtue of their accessibility to the researcher at times when the schedule of the site visit permitted this type of activity, that is, when interviews were not underway. Twenty-six questionnaires were completed by 9 first year students, 7 second year students, and 10 students in the third year of the program. This number represented approximately ten percent of the student body. Each item of the questionnaire is addressed in the following presentation of findings and, where relevant, responses provided by students in each year of the program are segregated.

Identification of the nursing model. The first item on the questionnaire addressed the student's awareness of the program's nursing conceptual model: "Are you aware of a specific model for nursing that forms the basis for your nursing program? If so, what is it?" Without exception, students identified the Roy Adaptation Model in answer to this item.

Identification of the elements. Identification of the elements of the nursing model was the topic of the second item: "What would you identify as essential elements or key concepts of the nursing model underlying your nursing program?" An interesting evolution occurred in the responses to this particular question. The first year students were, without exception, very specific in their identification of the person, the environment, health, and nursing activities as the essential elements. Their responses appeared to be reflecting class content related to the concepts generally addressed in nursing models and those associated with the Roy Model specifically. The second year students, in their responses, tended to be more specific in description of the concepts that were specifically attributable to the Roy Model, particularly in relation to Roy's description of the person and nursing activities. They referred to the person as a "biopsychosocial being" or an "holistic being" with "modes and related needs." A number of students addressed "behavior and stimuli" and nursing activities were specified in terms of Roy's description of the process.

The third year students also used terminology related specifically to the model to describe the essential elements. For example, several students named "modes," "biopsychosocial being," "behavior--adaptive and ineffective," or described the nursing process. In several responses, students departed from the terminology associated with the Roy Model and appeared to be integrating their ideas into broader concepts and there was evidence of general nursing terminology in the descriptive language. For example, rather that focusing on the specific elements of the model in Roy terms, one student identified "the adaptation model" as an entity. Another person suggested that "adaptive mechanisms to maintain homeostasis" represented a key concept of the model. This appeared to be a "moving away" from concepts specifically related to the model to those associated with more general nursing terminology. This observation could be associated with the faculty's attempt to integrate the model in the third year of the program and could be interpreted as evidence that the students were progressing beyond the knowledge level of understanding and beginning to integrate and apply this knowledge in the practice of nursing. This idea is explored further in the examination of responses to subsequent items.

What is nursing? Students were asked to describe what they were first taught about "what nursing is." First year students tended to focus on the biopsychosocial nature of the person as evidenced in the following summary of responses. Nursing is

> taking care of people physically and mentally. (3)
>
> care for the biopsychosocial being. (3)
>
> a healing process. (2)
>
> promoting the best level of health possible for the person.
>
> a need required by a person, group, or community.

There was evidence in the above responses of a certain lack of sophistication in the description of the concept of nursing--to be expected of students at beginning levels of a nursing program. Responses from the second year students demonstrated greater understanding as evidenced by an idea provided by three students: "[Nursing is] an holistic approach to promote optimal functioning and wellness." The other reponses provided by this group of students are cited below: Nursing is

> caring, hard work, emotionally demanding.
>
> maintaining integrity of the client.
>
> caring for the person (biopsychosocial being) and promoting the best level of health possible for the person.
>
> improving quality of life and dying with dignity.
>
> We were taught that nursing is the profession of caring for people in a way more personal than doctors because we have more contact and more therapeutic abilities, i.e. communications.

> We were first taught the nursing model and we were taught that nursing is looking at the whole biopsychosocial being and assessing all behaviors.

As with the previous item, second-year students tended to identify concepts inherent in the Roy Model in their description of the essence of nursing. There was, in addition, evidence of more sophistication in understanding and ability to express the meaning of the term.

The following statements are the responses of the third year students relative to the item under discussion:

> I was taught that nursing is caring and helping people by following doctors' orders and comparing an ill individual to the norms for a normal healthy individual. Caring does not mean tending to drugs etc. More than that, it is caring for a person psychologically by listening to them, etc.
>
> We were first taught that we were professionals and were going to help individuals adapt to any life situation.
>
> It is the humanistic/scientific approach to caring for people as biopsychosocial beings.
>
> We learned that nursing is not just skills but is also interaction with patients and ability to communicate.
>
> Deals with the nurse as a giver of care to those in need.
>
> Helping profession whose center of focus is on the recipient of care--has designated activities (nursing) and goals within it.
>
> An art and science which cares about the total person--biopsychosocial man.
>
> Caring for the whole person.
>
> Nursing is helping the patient to better control and adapt to his or her environment, to live a healthy, happy life.
>
> Nursing is a common sense approach to care. Using a base of scientific knowledge and a model to organize care.

It was expected that a description of nursing in terms of the Roy Adaptation Model would involve either reference to the goal of nursing--

to promote adaptation--or to the activities inherent in the nursing process. Few of the above third-year student responses dealt with these concepts. There was a tendency, on the other hand, to offer more generalized or global descriptions of the concept.

There was some evidence in the administration of the questionnaire to the selected students at Algonquin College that this particular item may not have been clear. For example, one person did not respond and other responses did not address a definition of the concept: "nursing is a need required by a person, group or community."

Conduct of program. Item four represented an attempt to identify the students' perceptions of how the nursing model actually affected the conduct of their nursing program. Many students commented on how the Roy Model generally affected nursing practice with such comments as: The model "helps in assessment," "allows for a total picture of patient care," and "helps you observe and treat the person holistically." Comments that directly related to the conduct and structure of the nursing program were as follows:

> whole nursing program is centered around the model. (4)
>
> gives the course a route to follow.
>
> based on the book.
>
> We follow the nursing model in our classroom and we put the model to use in our clinical areas.
>
> forms basis or groundwork for whole teaching/learning process.
>
> Each unit of our nursing theory is taught according to the model. Using case studies we use the model to identify health problems, goals, interventions.

> Our workbook is arranged with behaviors, stimuli, goals, interventions. After we finish the "disease process" we discuss how it fits into the Roy model. We use the Roy model for organization in clinical.
>
> Each unit of information has at the end a section where the nursing process is used usually on a case study to help show how it is applied.
>
> It sets the guidelines and set up in which most, if not all information is delivered.
>
> We learn the health problems under the needs and modes set by Roy. It directs our nursing program, it enables us to formulate objectives to learn the different parts of the nursing process to learn to be a nurse.

It was evident in the comments that many students recognized that the Roy Model provided the basis for the structure of the entire program and greatly influenced what they were taught about nursing. There was evidence in at least one comment of the concern identified earlier in these findings related to the role of pathophysiology and disease entities in the presentation of nursing content: "After we finish the 'disease process' we discuss how it fits into the Roy Model." It would seem that the student that made the comment viewed the disease process as receiving the major emphasis in the class presentations.

Care of patients. Students' perceptions of the effect of the nursing model on their care of patients was the topic of the last item: "What influence does the nursing model have on what you do when you are caring for patients?" Responses are reported according to the year of the student in the program.

First year students who completed the questionnaire made the following statements:

Influences my concept of people as individuals and to effectively understand that individual.

It gives new nurses a guideline to follow allowing us to be organized and get the most out of the nurse/patient interaction.

Observations and caring for patients are based on the Roy Model.

Try to use the model.

A great influence.

Allows you to communicate more thoroughly.

The model helps you to observe and treat the person holistically.

You tend to think in terms of the model and evaluate the person according to the model.

Second year students made the following statements:

It helps me to more clearly identify problems or potential problems. Also, I am aware of exactly what I am looking for, i.e. It gives a profound guideline as to what to do.

It forces me to see my patient as a biopsychosocial being who requires attention in all aspects--not only medical.

Learning to use the model in clinical settings.

Makes the nurse look at all aspects of the individual rather than only their health problem.

I am always aware of the behaviors and I mentally place them under the various needs, then I can decide what the stimuli are.

It helps me see them as people and not just patients.

The nursing model helps to look at behaviors and place them in a mode and what need is being interfered with. When the need being interfered with is clear, it is easier to care for our patients from the need's point of view.

Third year students made these remarks:

It helps/makes you stop and think about the what and why of a patient's ineffective behaviors and helps you think about the reasons and causes of these, so that you can figure out how to change them.

The model has helped me establish a structure to assess the patients I care for and to care for them in a systematic way.

The nursing model influences my care of patients. I find myself going through the categories and organizing my observations.

Assess and priorize (in each mode) patient problems as you go into the room.

Allows or ensures assessment of all areas of physiological and psychosocial behavior.

It helps me to concern myself with the patient in a psychosocial and physiological manner and view their state of health and/or illness accordingly.

When doing assessments, follow through the behavioral indices for that need i.e. Under Oxygenation - v.s. [vital signs], vessel patency, diagnostic tests.

I assess the patient using the need/modes according to Roy. We look at his nutrition, elimination, self-concept.

When caring for patients we look at the patient as an adaptive being. Use the process to systematically care for the patient. --to have a thought process to work with, to make sure every need is being met for the patient.

The model serves as an organizational tool. It also helps ensure total care for the patient is undertaken.

Most students, in their statements about the influence of the model on their caring for patients, identified concepts inherent in the Roy Adaptation Model and there was evidence that the model did form a thought pattern for many of them. It was interesting to note the differences in levels of understanding demonstrated by the various statements and the variability in the sophistication of the expression of ideas. There was some support of the concern expressed by a number of faculty members relative to the level of student accepted into the program and their lack of experience in dealing with conceptualization.

Summarizing Remarks

Three topics were selected for summarizing discussion relative to the manner in which the Roy Adaptation Model had been implemented in the Algonquin College Nursing Program at the Woodroffe Campus. These pertained to: (1) the manner in which the curriculum was designed and set forth by documentation, (2) the evidence of use of the model in terms of faculty and student performance as perceived during interviews with faculty and through the questionnaire completed by selected students, and (3) the concerns raised by faculty regarding the use of the model in the program.

Evidence of the application of the Roy Adaptation Model was readily evident in the curricular materials reviewed for purposes of this research. It was explicit in the conceptual framework and operationalization of the conceptual framework was evident in the terminal objectives (program behaviors), the curricular structure, the content of the nursing courses including the introductory course, the patient assessment tools and procedures, documented and reported classroom and clinical activites, assignments, and examinations. The elements that appeared to have primary focus were "the person" and "the nursing process;" these recurred as organizing process threads throughout the curriculum. The influence of the Roy Model was not overtly evident in the curricular dimensions of promotional materials, the philosophy, course bibliographies, or formal faculty evaluations.

Inherent in the nursing conceptual component of the framework for curriculum development were four adaptations to the model for purposes of the Algonquin College Program. These pertained to (1) the specific identification of the spiritual nature of the person in addition to Roy's "biopsychosocial" designation for the description of the person, (2) the modification of the six-step nursing process described by Roy by amalgamation of the first three steps into one assessment phase, (3) the addition of the skill of "interpretation" to the skills (observation, interview, measurement) identified by Roy as inherent in assessment, and (4) the refinement for program purposes of the needs and associated adaptation problems in each of the modes. With the exception of the first adaptation to the model, the influence of all the modifications to the nursing conceptual basis was evident throughout the curricular documentation.

The sources of information regarding personal application of the Roy Model by faculty members and students were the interviews of randomly selected instructors and the questionnaires completed by selected students from each year of the program. The faculty interviews were rated for Level of Use of the Roy Model and were rich in description of the manner in which the model influenced performance in the teaching situation. Student perceptions of the effect of the model on their nursing program were evident in the responses to the questionnaire.

According to the Levels of Use ratings and descriptive comments provided by faculty members, there was variance in the extent to which faculty members applied the Roy Adaptation Model in their teaching situations. There was evidence that, for five of the instructors interviewed, the Roy Model had a distinct influence on teaching both in the clinical and classroom settings. For the remaining instructors, the model did affect the manner in which they interacted with students but in a limited way, more by virtue of the curriculum structure and the associated instructional materials than by internalization of the concepts inherent in the model.

There was indication that faculty members from the senior phases of the program viewed the model as taking on a more retiring role in their particular clinical and classroom responsibilities. Their efforts were directed towards the integration of the students into the realities of the practice situation and this meant the abandoning of some of the terminology of the model for concepts that would be readily understood by practice personnel. Thus, these people generally appeared to be rather limited in their application of the model in their teaching situations.

All of the students completing the questionnaire could identify the Roy Adaptation Model as the nursing conceptual basis for their program. The clarity with which students were able to describe concepts inherent in the model and the manner in which it affected the program structure and their practice was variable. However, there was evidence that the model and its associated concepts did have an influence on the thought patterns of students as they cared for their patients.

Although there was ample evidence that faculty members were pleased with the conceptual direction provided by the Roy Model for their nursing program, a number of concerns were raised. These related to (1) perception of the heavy emphasis on the model, particularly in the first year of the program; (2) a lack of mutual agreement regarding the meaning and application of some of the concepts inherent in the model; (3) concern that the students are not able to grasp the model at the expected level of sophistication; (4) concerns relating to the use of the model in the practice setting; and (5) reservations expressed by some faculty members about the utility of a nursing model as the conceptual basis for the program and the manner in which the Roy Adaptation Model has been implemented in this particular program.

The findings of the second site visit are presented in the next chapter. Interpretation of the findings from each of the programs visited is the topic of the concluding chapter in the dissertation.

CHAPTER 6

Site Visit--Health Sciences Centre

The site visit to the Health Sciences Centre School of Nursing in Winnipeg, Manitoba was conducted on November 18 and 19, 1986. In this chapter the findings of the visit are presented. As in the previous chapter, a description of the program and a brief history of the events preceding the decision to adopt the Roy Adaptation Model as the nursing conceptual basis for the curriculum constitute the initial presentation. A description of the program's conceptual framework is also provided. The report on the findings focuses on the sixteen curricular dimensions identified in the conceptualization of this study and the extent to which the concepts inherent in the Roy Model are evident in each. The chapter concludes with summarizing remarks related to the findings.

Background Information

Understanding of the findings is contingent upon a knowledge of the setting of the Health Sciences Centre program and some historical factors associated with the decision to adopt the model. For this reason, a brief description of the program, some relating to its recent history, and the conceptual framework for the curriculum are presented.

Description of the Program

The program at the Winnipeg Health Sciences Centre School of Nursing is a two-year (80-week) hospital-based nursing diploma program. Approximately 120 students are admitted to the program each year and an average of 100 nurses graduate. There are 25 faculty members.

The program extends over a two-year period, from the end of August to the end of June, with Christmas and spring breaks. Upon successful completion of the course of studies, students are prepared to write the Canadian Nurses Association Testing Service examination, success in which is required for licensure by the Manitoba Association of Registered Nurses.

A Brief History

The Health Sciences Centre School of Nursing was founded in 1887 as the Winnipeg General Hospital Training School for Nurses. Since that time, over 6,000 nurses have graduated from the program.

Recent historical developments relating to the move to incorporate a nursing conceptual basis into the curriculum framework date back to the mid 1970s. Several factors were identified as influential in that decision: there had been problems with accreditation reviews--the curriculum was viewed as piecemeal and out of date. The advent of national comprehensive nursing examinations based on a nursing model was imminent. In addition, 1975 marked the hiring of a new director whose mandate was curriculum revision and reform. Thus, a curriculum revision project was initiated by the administrator of the program.

Workshops relating to a broad range of topics--curriculum development, group process, change, student evaluation, for example--were conducted and faculty meetings for purposes of refining the program's philosophy were launched. Throughout this period of time, curriculum revision per se was not undertaken; rather, the suggestion for a specific change initiative came after the workshops had been conducted and the decision to adopt a nursing model as the nursing conceptual basis for the program was made. Although faculty were in support of the adoption of a published nursing model, the group as a whole did not have specific suggestions as to which one should be adopted. Interest in the Roy Model was expressed by one faculty member and this was shared by the new director but options were left open for a period of time in the hopes that a consensus would develop within the faculty group. Eventually, the director suggested that the group adopt the Roy Adaptation Model as the nursing conceptual basis for the program; a vote was taken and the decision to adopt the Roy Model was made in 1976. The general feeling of the faculty group was one of relief that the decision had finally been made.

As the revision project began, faculty members were directed to fit the Roy Model into their particular content areas. There was no overall conceptual planning initially. Revision focused on the support course component of the program while faculty members developed teaching modules on an independent basis. As the model became incorporated into the course content, a number of problems became evident. There was a lack of mutual understanding of concepts inherent in the model. Integration of the model in the second year of the program was difficult to achieve. In addition, a number of faculty members were resisting the change. Nonetheless, the curriculum based on the Roy Model was implemented in September of 1977.

In Spring 1981, the program underwent a total curriculum review. It was identified that the philosophy, objectives, and conceptual framework did not reflect the Roy Model and that there was no overall plan for curriculum development. The support courses required evaluation as did the modules that had been developed by faculty in the absense of concrete guidelines. Revisions were undertaked to deal with the identified problems and to increase continuity in the program. At this time, the nursing component had not been the focus of curriculum development activities and it was not until 1983 that the revision of the nursing courses was undertaken.

At the time of this site visit, the Health Sciences Centre nursing program was in the process of the curriculum revision project; the first year of the revised program was in progress and the revised second-year program was scheduled to commence with the progression of the current first-year class into the second year of the program in Fall of 1987. The major objective of the revision project was the consistent integration of the Roy Model throughout the program and the refinement of the manner in which content is presented.

The Conceptual Framework

The conceptual framework of the Health Sciences Centre nursing program addressed four components: the person, health, nursing, and the physical and social environment. As such, the conceptual framework for the program consisted primarily of the nursing conceptual basis as opposed to the three-component (the subject, the setting, and the student) conceptual framework for curriculum development as described by Chater (1975:430).

The Roy Adaptation Model was specifically identified as the conceptual model forming the basis for the nursing program as evident in the following quotation: "The Health Sciences Centre School of Nursing program is based on the Roy Adaptation Model." The influence of the Roy Model was inherent throughout the description of the conceptual framework and the concepts of the person, the environment, health, the goal of nursing, and nursing activities as described by Roy (1984) were evident throughout. There were, however, a number of instances where the concepts inherent in the Roy Model were adapted to suit the purposes of this particular program.

Modifications to the Roy Model description of the person involved the mode-related needs. These differed slightly from those identified in Andrews and Roy (1986:42 & 43). Physiological needs were identified as sleep, activity, respiration, circulation, ingestion, elimination, protection, sexuality, and reproduction. Psychic, emotional, and social integrity were viewed as needs associated with the self concept, interdependence and role function modes, respectively. The spiritual nature of the person constituted another adaptation to Roy's description of the person. Whereas Roy views the spiritual aspect of the person as part of the self concept mode, the spiritual needs of the person were associated with the interdependence mode in this nursing program's conceptual description of the person. This adjustment was based on description of the interdependence mode by Tedrow (1984:309).

Another modification to the model was evident in the manner in which nursing activities were described in the program. As was evident in the previously described site visit, the first three steps of Roy's nursing process (assessment of behavior, assessment of stimuli, and nursing diagnosis) were amalgamated into one major "assessment" phase to align with the commonly accepted four-step nursing process. It was pointed out that, although the three steps had been amalgamated, each was still specifically addressed in the process of assessment.

The identification of common stimuli for consideration in Level II assessment was also unique to the program. Ten categories of stimuli common to all need areas were identified:

1. usual behavior,
2. maturational differences,
3. physiological processes/conditions,
4. prescribed therapies,
5. environmental conditions,
6. stress/emotional status,
7. perceptions/beliefs,
8. decisions,
9. lifestyle/current activity, and
10. support system.

These categories formed the basis for the identification of support knowledge incorporated into the curriculum.

Nursing diagnoses also assumed a form particular to this program. Students were required to develop a three-part nursing diagnosis comprised of (1) a nursing problem derived from the categories accepted by the North American Nursing Diagnosis Association (Gordon, 1984), (2) behaviors manifested by the patient that support the diagnosis, and (3) stimuli influencing the patient's behavior. It was pointed out that the diagnostic categories had been reworded to suit the level of the students and the Roy framework. An example of a nursing diagnosis structured in this fashion is quoted:

> Altered bowel elimination pattern: Constipation as evidenced by hard, dry small stools; decreased bowel sounds and distended abdomen; related to lack of exercise and decreased fluid intake.

Another innovative feature associated specifically with the use of the Roy Model in this program was the specification of five general categories of nursing intervention designed to assist the student in the identification of which stimuli to manage in the intervention process:

1. further assessment,
2. physical care (including management of the environment),
3. communication with the patient,
4. teaching, and
5. communication with support systems.

The description of the goals of adaptation also constituted a modification to the concept as it was described by Roy (1984:35). Whereas Roy described adaptation in terms of the goals of the human system--survival, growth, reproduction, and mastery--the concept, as it was addressed in this program, identified the goals of adaptation as being survival, growth, and control. Reproduction was removed as a goal and viewed as a need associated with the physiological mode.

With the objective of connoting the collaborative nature of nursing, the concept was described as the "nurse/patient partnership." This terminology was viewed as unique to this program and an innovative manner of conveying the importance of involving the patients in decisions relating to their nursing care.

Despite the adaptations that have been identified, the nursing conceptual basis of this nursing program was clearly based on the Roy Adaptation Model. The adaptations appeared to have been developed to provide further direction for both the teaching and the practice of nursing as presented in this particular diploma nursing program.

The ensuing section focuses on the manner in which this conceptual framework has been reflected in the sixteen curricular dimensions identified as relevant for this research. Each dimension will be dealt with individually through description and analysis.

Findings

In accordance with the conceptual framework, sixteen curricular dimensions were assessed to provide information about the manner in which the Roy Adaptation Model was implemented at the Health Sciences Centre School of Nursing. Each of these dimensions is addressed in the following presentation of findings.

Promotional Materials

Promotional materials, as the means by which the nursing program is portrayed to the general public and to prospective students, represent one manner in which many individuals initially encounter a nursing program. The promotional information reviewed for this program consisted of a two-page brochure describing the nursing program at the Health Sciences Centre. The topics addressed in the brochure were nursing as a career, some general information about the school of nursing, details of the diploma program, entrance requirements, and application procedures.

The section that pertained particularly to the purpose of this research was the description of the program. Information about the theoretical component of the first and second years of the program and the clinical practice portion was presented. The first year of the program was described as presenting "general information about human development and behavior and common health nursing problems that arise." The second year presented "more complex, challenging nursing situations in specific areas of practice and introduces the student to ethical issues of practice." Clinical practice information was presented in the following quotation:

> Three days each week of supervised clinical practice is integrated throughout the two years of the program. An eight-week intensive clinical experience at the end of each year provides for consolidation of knowledge and skills.

The information presented in the brochure implied that the focus of the curriculum was the practice of nursing as conveyed through a nursing model. However, there was no specific mention that the program was based on the Roy Adaptation Model. As such, the promotional materials did not specifically reflect the elements inherent in the Roy Model. It was pointed out, however, that the Roy Model is discussed with candidates during a pre-admission interview with the director of the program.

Philosophy

The philosophy statement derived for the Health Sciences Centre School of Nursing reflected basic beliefs about the individual, nursing and health, and learning. It was further mentioned that the philosophy of the controlling institution, the Health Sciences Centre, was inherent in the beliefs articulated for the nursing program.

The two concepts that pertained particularly to the purposes of this investigation were "the individual" and "nursing and health" and these are quoted:

> We recognize that society is composed of individuals from many social, cultural, and economic backgrounds. We believe that each individual is a unique being with basic needs, intrinsic worth, human rights, and that the individual adapts with varying degrees of success to changing internal and external stimuli in order to maintain physiological, psychological and sociological integrity.
>
> We believe that nursing is an art and a scientific practice discipline which views the individual as a biopsychosocial being with modes of adapting to a changing environment. The nurse, through the use of the nursing process, independently and in collaboration with others, promotes the individual's adaptation to achieve the goals of survival, growth, and control in situations of health and illness or assists the patient to reach a peaceful, dignified death.

Although it was generally not expected that philosophical statements identify or quote the model used as the nursing conceptual basis for the program, there were several concepts identified in the philosophy statement that are specifically attributable to the Roy Adaptation Model and these were underlined. As such, the philosophy specifically reflected the beliefs about the individual, the environment, health, and the goal of nursing that are inherent in the Roy Model. The remaining statements constituting the philosophy were viewed as compatible with the concepts associated with the Roy Adaptation Model and nursing models in general.

Terminal Objectives

The terminal objectives of the nursing program, as the competencies that the individual should demonstrate upon completion, were addressed in a document entitled "Functions of the Graduate." These are quoted below. Elements attributable to the Roy Adaptation Model are underlined.

Upon completion of the program the graduate will:

1. demonstrate respect for the dignity, beliefs and rights of the individual.
2. apply concepts and principles from the biopsychosocial sciences to assist individuals and their families to achieve adaptation.
3. act as an advocate for individuals and families experiencing adaptation problems.
4. use the Roy Adaptation Model and the nursing process to promote biopsychosocial adaptation of the individual throughout the life cycle.
5. practice according to legal/ethical/professional standards.
6. provide care for patients/significant others in a beginning staff position in acute and chronic health care facilities.
7. practice nursing independently and in collaboration with the patient, significant others and other health care workers.
8. implement patient teaching in partnership with other health team members, to ensure informed decision making and to enhance effective behavioral change.
9. accept responsibility for continued self-directed learning, self-evaluation, and professional development.

In addition to the explicit mention of the Roy Adaptation Model in objective four, there was reference to the biopsychosocial adaptive nature of the individual in objectives two, three, and four. Other concepts inherent in the Roy Model could also be isolated in the statement but in that these features are common to nursing models in general, they were not extracted for discussion.

Curriculum Structure

The curriculum structure, the manner in which courses of study are organized and integrated, is presented in terms of major content areas or blocks, horizontal content threads, and horizontal process threads. Each of these is typically influenced by the conceptual framework and particularly the concepts inherent in the nursing model.

The nursing program at the Health Sciences Centre consisted of six terms; three in each year of the program. The first two terms of each year (sixteen weeks in length) involved both theory and clinical practice while an eight-week intensive clinical experience was provided in each of Terms III and VI. Most of the clinical experience was provided at the Health Sciences Centre.

In Term I, the focus of the program was on the adaptive individual. The needs relating to each of the four adaptive modes and as described in the conceptual framework were introduced and basic skills for assessment were introduced. In Term II, the focus turned to ineffective responses in all four modes. The nursing process was explored in more depth and adaptation problems became the concept for organization of topics for study. Term III was a clinical practicum during which students provided care for adults "manifesting frequently occurring responses to common stimuli."

Terms IV and V provided the student with the opportunity to deal with increasingly complex adaptation problems in relation to medical and surgical nursing (adult and pediatric), obstetrical nursing, and mental health nursing. A final eight-week clinical practicum provided for the consolidation of knowledge and skills in practice.

Process threads. Process threads, those concepts that were emphasized throughout the curriculum with increasing expectation of student skill, were the needs (after their sequential introduction in Term I), the four modes, and the nursing process after Term II. Although there were situations where one of the modes was emphasized, consideration in assessment was given to each of the modes.

Content threads. The concepts of adaptation problems and the associated nursing interventions formed the major content threads in the program as they were integrated throughout the curriculum and introduced in a progressive manner. Although the nursing process was identified as a process thread in the previous discussion, it was also viewed as a content thread in the first year of the program. In Term I, the students focused on the assessment phase of the process, primarily the assessment of behavior and stimuli, while in Term II adaptation problems and nursing diagnoses were introduced as were the remaining phases of the nursing process.

The selective emphasis on modes in particular clinical practice situations suggested that the modes constituted a content thread as well as a process thread in some parts of the program. For example, the psychosocial modes tended to be the focus in the mental health nursing experience.

Nursing interventions formed a progressive content profile as the curriculum progressed in that maintenance interventions were the focus early in the program. Promotive and restorative interventions were introduced progressively in subsequent learning experiences.

Major content areas. Major content areas were evident in each of the theory terms: Term I focused on the adaptive individual and related basic assessment procedures; Term II, adaptation problems in the physiological mode in particular; and Terms IV and V provided rotational theoretical and clinical experiences in the clinical areas noted previously. Since the faculty were in the process of a curriculum revision project, there were two forms of the second year of the program available for review by the researcher--the program currently underway and the proposed revision. Whereas the current program consisted of segregated theory and clinical content for each of the specified areas of clinical practice, the revised curriculum amalgamated this content into one course with separate units dedicated to the content of each of these areas. The revised program portrayed more of a focus on adaptation problems as they related to the physiological and psychosocial modes than did the current program.

Three major organizing principles were noted: "adaptive to ineffective" was the framework for the introduction of individuals' behavior, "simple to complex" represented the manner in which adaptation problems and nursing interventions were introduced, and "few to many" guided the assignment of patients in the practice setting and the number of adaptation problems being experienced by the assigned patients.

Analysis of this curricular structure in terms of the Roy Adapatation Model indicated that one major element and its related concepts had a primary influence on the design: the four modes and their associated needs and adaptation problems. In addition to serving as both process and content threads, the modes provided a focus for major content areas in Terms II, IV, and V. The needs as related to each of the modes constituted a process thread after they had been introduced in Term I and the associated adaptation problems formed the basis for the introduction of content throughout the remainder of the program. The influence of the nursing process as a process thread pervaded both the presentation of theory and clinical practice, but its role was not as obvious when assessing the overall curriculum structure.

Course Content

In the analysis of course content with respect to evidence of the concepts associated with the Roy Adaptation Model, attention was directed towards the content of the nursing courses, although it was acknowledged that the nursing model should provide direction for the selection and content of support courses, as well. The course descriptions provided a picture of the content of the nursing courses as they progressed throughout the curriculum. Concepts directly attributable to the Roy Model are underlined.

> **Nursing** 100 (Term I) - The student is introduced to adaptive (normal) parameters of human behavior in physiologic, self concept, role function, and interdependence modes. Nursing 100 focuses on the assessment phase of the nursing process, identifying those behaviors which are considered adaptive, and a few behaviors that fall outside the normal parameters. Basic interviewing skills

provide the student with the tools necessary to understand verbal and non verbal communication and to gather data required for assessment.

Nursing 101 (Term II) - Nursing 101 expands upon the content of Nursing 100. Nursing process is explored in more depth. Adaptation problems (nursing diagnoses) in all modes are discussed in terms of assessment of the problem, planning of care, implementing appropriate nursing interventions, evaluating the effectiveness of the interventions, and revising care as necessary. The main focus is on ineffective responses in the physiologic mode requiring the mastery of manipulative skills in a controlled setting prior to carrying them out clinically.

Nursing 102 (Term III) - Nursing 102 integrates previously learned material from Semesters I and II and encourages the student to view the patient as a biopsychosocial being. Through conference and clinical application, students learn to utilize the nursing process when providing care for adults manifesting frequently occurring responses to common stimuli. Concentrated clinical practice affords the student the opportunity to develop dexterity in manual skills, meaningful communication with patients and other members of the health team, use of the nursing process in integrating theory, a sense of responsibility for decision making in patient care and as a team member, and beginning independence in delivery of patient care.

The second year nursing courses were in the process of being revised. Whereas the current program offered a separate nursing course for each of the clinical areas (adult and pediatric medical and surgical nursing, obstetrical nursing, and mental health nursing) to which the students were posted, the proposed second-year program amalgamated the content into one nursing theory and clinical course with units applying to each of the clinical areas. Although a course description for the second year nursing component (Nursing 200/201) was not available, unit topics and objectives were in draft form. Unit titles provided an indication of the course content in this part of the program:

Unit I - The Roy Model--practical application,

Unit II - Complex nursing interventions,

> Unit III - Promoting adaptation in the child bearing family,
>
> Unit IV - Restoring adaptation in individuals of all ages with severe disruption in the physiological mode impacting on psychosocial modes,
>
> Unit V - Restoring adaptation in adults with severe disruption in the psychosocial modes.

Objectives for each of the units focused extensively on the nursing process as described in the Roy Adaptation Model.

The two concepts that recurred throughout the course descriptions were the four modes and associated adaptation problems. Nursing interventions as categorized in the program's conceptual framework also appeared to constitute major content in the course design. As such, both Roy's description of the person and nursing activities were highly visible in the course content.

Introductory Nursing Course

The introductory nursing course (Nursing 100) has been described, in part, in the previous section. A further quotation provided more information about the course, as did the course objectives. Both are quoted and specific references to the Roy Model are underlined.

> Nursing 100 introduces the student to the concept of the individual adapting to the environment through four modes of adaptation. The nursing process is the organizational approach through which the student learns to assess, plan, implement, and evaluate nursing care. The theories and concepts are based on the Roy Adaptation Model of Nursing.
>
> Course objectives
>
> The student will:
>
> 1. describe the Roy Adaptation Model of Nursing,
> 2. describe interventions that are used in all needs to:
>   2.1 assess level I behaviors and level II stimuli,
>   2.2 manage level II stimuli,

3. explain the phases of the nursing process according to the Roy Model,
4. discuss each phase of the nursing process as it applies to maintaining adaptation in the adult in the physiological, role function, and interdependence modes. [The self-concept mode is introduced in the second term.]

One faculty member, in describing the introductory nursing portion of the program, provided the following description:

> The students were introduced to the entire process right at the beginning with emphasis placed on Level I/Level II. There isn't a great deal on interventions and rationale but we do take them through the whole process. Right from the first assessment they submit, they take it through the whole process. We definitely put much more emphasis on assessment through the entire term but they are expected to go through the whole process.

For purposes of the Nursing 100 course, a module entitled "The Nursing Process" was prepared to "outline the details of the nursing process according to the Roy Model as used in the Health Sciences Centre School of Nursing." The presentation incorporated the adaptations to the model that were identified earlier in this chapter. All major elements of the Roy Model were evident in the introductory nursing course and the importance of the information was pointed out to the students:

> This information is the foundation of the nursing curriculum for the entire length of your program and is essential to your nursing practice in the future. . . .Keep this information within easy reach as you will find it a helpful reference for almost every clinical experience.

Patient Assessment Tools/Procedures

It was evident in discussion with the faculty members that the Roy Adaptation Model as described in the conceptual framework for the nursing program formed the basis for patient assessment. In describing assessment procedures, one second year instructor stated,

> I ask them [the students] to do a Roy assessment of the patient--a complete assessment and I ask them to go back to the need areas. . . . I find if they don't, they forget things. I also want to see how they're priorizing and if they can look at the need areas and priorize within the need areas as opposed to looking at the whole patient and priorizing that way. So that sort of thing makes them look at every need area and see if there's anything that's happening with it . . . and priorize diagnoses and then to carry on and process the priority diagnosis right through.

Another instructor affirmed this description: "Students use the model clincally to gather their data. Usually, we do it need by need." One instructor, in describing the protocol for first year students, pointed out that students are expected to

> collect data first of all and to be able to divide that data into first level behaviors and common second level stimuli and to recognize what the deviations from the norms are and we take a need area at a time so that each week that they are on [the clinical area], they start with one need area.

One person made the following observation:

> When the students get a bit more advanced, I'm not so sure that there's carry over. . . .I think they tend to get a little bit more functional when they have more than one patient. . . .They tend to use the hospital nursing history tool to gather their data and it's not Roy Model based. It's systems [based].

It was evident in some of the curricular documents (for example, the proposed Term I timetable) that the head-to-toe assessment was used to collect the initial data on the patient. However, the manner in which this procedure was integrated into the needs framework was not readily evident nor was it addressed in the master content objectives for Nursing 100. The following quotation provided some indication of the role of the head-to-toe assessment in the assessment procedure:

> They [the students] have to do a head-to-toe assessment, use our nursing data base on all the need areas, pick out the relevant diagnosis through all need areas including psychosocial need areas and then priorize--pick out the most relevant diagnosis and follow it through with whatever they want to.

The "Nurse's Observation Guideline" and "History" forms were available for analysis. The "Nurse's Observation Guideline" provided a framework for the assessment of behavior (Level I assessment) and was structured primarily according to the physiological needs and the psychosocial modes. An environmental assessment was also included. The "History" form, in addition to providing for the recording of the nurse's observations, was structured according the common stimuli addressed previously and thus represented Level II assessment. As such, the patient assessment procedures reflected both the modes and their associated needs as well as the common stimuli. The nursing process according the the Roy Model was also implicit in their design.

Classroom Activities

The Health Sciences Centre School of Nursing incorporated independent study time with assigned modules, seminars, and lectures in the presentation of nursing theory. As such, time spent in classroom activities consisted primarily of the application in seminar situations of material presented in the modules. Two faculty members described this process:

> The seminars are prepared by the teacher whose content area it is and they [the students] might be given a situation and be asked to develop one aspect of the Roy Model--maybe look at the nursing interventions if they were given some data. . . .We try not to work through the whole process each time but maybe pick out parts of it and emphasize it.
>
> In the classroom, all of the seminars that we teach are set up so that the students collect their data according to the Roy Model and follow through the process the way the School utilizes the Roy Model.

Since the focus of this research was on the manner in which the nursing conceptual model was evident in the nursing program, classroom activities as related to support courses were not assessed directly. However, one faculty member did address the role of several support courses and their application when commenting about the role of pathophysiology in classroom activities:

> Traditionally, we have processed those [disease conditions] under Second Level under what we call "physical condition." The students have had some difficulty with that in Term I because they don't have as a prerequisite Anatomy and Physiology. [The students] try to look up the disease and see how that can have an effect on [the person's behavior]. It's not well done in Term I; it's better in Term II when they have more Medical Sciences and Anatomy and Physiology content. This year [we have] incorporated . . . common processes that are involved [for example, stress response and obstructive processes].

As was mentioned previously, the nursing curriculum at the Health Sciences Centre was undergoing revision. The first year revisions were in place and the second year revisions were to be implemented in Fall of 1987. Commenting on the change, one faculty member observed, "There's been more of an effort to use Roy within all our modules. The effort is being made to provide examples of use of the model in presentation of the theory content." Another person stated, "We've revised all need areas in Year I. We're reorganizing all of Level Ones and Level Twos in an effort to make it more consistent."

Another faculty member described the curriculum revision as follows:

> We've had to look at the whole curriculum and rethink it. . . .We focused before just on physiological need areas and I don't think we gave as much thought to the psychosocial. Now we're trying to become intermodal and use them in a better way. . . .Thinking of my own content, the changes that have been made have been mainly things in terminology in trying to make everything consistent. All

> second level factors are sort of common second level factors through all the need areas and that wasn't the case before. We only used to teach the model up until behavioral outcome in first term and this year we've done interventions and rationale.

Review of a number of the modules currently used in the first term of the program provided an indication of the prevalence of the concepts inherent in the Roy Model. Both the need areas and the nursing process were evident in the materials pertaining to Term I; adaptation problems were introduced in Term II. Inconsistent use of the Roy Model was observed in Year II modules and it was recognized that these were to be replaced in September 1987. The new modules had not yet been developed. Classroom observation would have provided further indication of how the Roy Model was actually used in the classroom situation but this activity was not possible during this site visit.

Clinical Activities

Extensive time was designated for clinical practice throughout the program at the Health Sciences Centre School of Nursing. The proposed (1987) timetable for Term I showed students entering the clinical area in the third week of their program for specified clinical activities. As stated in the promotional brochure,

> Three days each week of supervised clinical practice is integrated throughout the two years of the program. An eight-week intensive clinical experience at the end of each year provides for consolidation of knowledge and skills.

Clinical experience was viewed as an integral part of each nursing course. The following description of the clinical content of Nursing 100 described clinical activities at that level.

> Basic skills needed for assessment are introduced in the simulated laboratory and reinforced in a variety of settings, e.g. extended

> care and hospital settings. Patients chosen are those whose conditions are stabilized but who need some assistance with activities of daily living such as hygiene and grooming, activity and nutrition. Nursing care is primarily that of providing comfort and supporting effective responses to stimuli.

In the second term,

> The main focus is on ineffective responses in the physiologic mode requiring the mastery of manipulative skills in a controlled setting prior to carrying them out clinically. Patients chosen are those who are encountering problems in meeting their physiologic needs and/or need support in their adaptive responses in all modes.

Term III, the eight-week concentrated clinical practicum at the conclusion of first year, served to help students consolidate and apply the knowledge gained throughout the first year of the program. The clinical objectives for that experience are quoted. Specific reference to the Roy Adaptation Model—is underlined.

The student will:

1. do a total patient assessment identifying physiological evidence, laboratory/diagnostic test evidence, and the patient's description of their adaptation level in each of the four modes.
2. apply knowledge gained from the biopsychosocial sciences and nursing to assess Level I and II in all modes.
3. formulate a plan of nursing care based on assessment data in each of the four modes and consideration of all nursing categories.
4. provide accurate rationale for planned nursing care.
5. implement nursing care according to agency policy and procedure for patients experiencing common adaptation problems primarily in the physiologic mode.
6. demonstrate beginning ability to support patients experiencing common adaptation problems in the role function, self-concept and interdependence modes.
7. evaluate and revise nursing care for patents experiencing adaptation problems.

8. implement care in collaboration with patients and other nursing personnel.
9. demonstrate beginning ability to analyze own performance through submission of anecdotes.
10. seek out on a regular basis individual learning experiences and feedback on performance from the teacher.

Reference to adaptation problems and the modes was particularly evident in these clinical objectives.

Clinical plans for the revised program were at the proposal stage at the time of the site visit. From the objectives available for review, it appeared as though the revised second year of the program was focused extensively on concepts inherent in the Roy Model. The evidence of the need areas and modes and the nursing process was evident throughout.

It was evident that the structure for clinical experience in the first year and the proposed second year of the Health Sciences Centre nursing program was based on the Roy Model with particular emphasis on the needs as related to the modes and on the nursing process. How this structure actually influenced performance in the clinical setting could not be determined without in-depth observation in the clinical area and this activity was not attempted during the site visit to the Health Sciences Centre School of Nursing.

Assignments

Assignments associated with the nursing program included "the writing of assessments, the practice of manual skills, and provision of care to patients assigned." It appeared that most of the assignments associated with the nursing courses consisted of either clinical assessments related to a specified need(s) or the development of a nursing care plan, in whole or in part.

One faculty member, when describing assignments in her particular area of responsibility, made the following statement:

> They [the students] are expected to do a complete level one assessment and a level two assessment and then analyze the data and come up with a nursing diagnosis relating to their patient. . . .We evaluate their use of the process. We look at: Are they covering self concept? Do they have a diagnosis coming out of self concept? Have they looked at role and interdependence/dependence?

Another instructor pointed out a focus that assignments take in her area:

> We do a lot of work [in second year] on nursing diagnoses. They're at a more simplistic level in first year. In second year, they [the students] start off with ten diagnoses and then, as they go along, they can see the interrelatedness of some of these diagnoses and then start using the diagnosis as level two and get into the really interrelated plans and may get it down to three workable diagnoses. We refine their assessment skills and add to their ability to assess: given the level twos, what are the potential solutions?

It appeared from the course outlines that examinations were the primary method of assessing theoretical knowledge while assessment and nursing process assignments assisted with the evaluation of clinical progress. As such, the assignments expected of the students focused exclusively on the nursing process (or a portion of it), as described in the conceptual framework, with the format for these assignments being the need areas and modes.

Examinations

As mentioned previously, the Health Sciences Centre School of Nursing relied extensively on examinations to assess students' progress in nursing theory. Sample examinations were available for review during the site visit.

It was noted that many of the items in the multiple choice examinations directly reflected concepts inherent in the model and that most items could be accommodated within the framework of the model. Specific concepts associated with the nursing process were addressed. In the initial examination (Nursing 100), concepts inherent in the Roy Adaptation Model were highly evident. This was not so apparent in examinations given to the students later in the program.

Two faculty members commented on the school's examinations:

> We've been switching to using the format as far as using the terminology (level ones, level twos, contributing factors). We're starting to try to use the actual terminology in our exams. That's been an ongoing process.
>
> One of the real problems that we have is that our exams really tend to be more on the level of knowledge rather than carrying on and being either process related or attacking the taxonomy of educational objectives.

It thus appeared that, associated with the curriculum revision, there was an ongoing effort to formulate examination items that would reflect concepts inherent in the Roy Model and to achieve consistency relating to their use. In the examinations reviewed there was evidence of focus on the needs areas as related to the modes and the nursing process as described in the Roy Model and adapted for use in this program.

Course Bibliographies

The primary materials reviewed with regard to course bibliographies and references were the independent study modules. Of particular interest were materials relating specifically to the Roy Adaptation Model.

An independent study module based on Roy (1984) was developed to present the Roy Model to beginning students; faculty members also used the module for orientation purposes. Other than the Roy (1984) reference, there did not appear to be other Roy-related references used in the program. The faculty was not acquainted with Andrews and Roy (1986).

Three faculty members commented on student use of the library and the availability of Roy references in the school's library:

> They [books on the Roy Model] just go out of the library. I don't think there are any books just now on Roy in the library. I doubt that the students are using them. I haven't personally sent them to Roy. I find that the majority of students are not using the library. . . .They use their textbooks primarily.
>
> I would like to get my hands on her new book.
>
> I've never actually read her [Roy's] book to be honest with you because when I first started here they had the book there and I was told, "Don't bother reading this one, she's got a new one coming out. Wait till the new one comes out." And then the new one came out and there were two copies in the whole school and I just never seemed to get around to it. . . .All I've learned is what I've picked up from other teachers or other comments going on. I don't even know how good my knowledge base of the Roy Model is.

From comments such as those above, it appeared that the primary resource used by both faculty and students with respect to the concepts inherent in the Roy Adaptation Model was the module entitled "The Nursing Process" compiled by Sharon Tschikota (1986) for the Nursing 100 course. The required readings associated with the module were extracted from Kozier and Erb (1983); Roy (1984) was noted in the bibliography. This was the only reference to primary Roy sources that was noted in the materials reviewed during the site visit.

Student Evaluations

Student evaluations in the Health Sciences Centre School of Nursing were divided into two categories: evaluation relating to the knowledge presented in the theoretical component of each course as evidenced by examination results, and clinical evaluation noted in the following quotation from the Nursing 100 course outline: "Students will receive regular evaluations on their performance of skills and their use of the nursing process in caring for patients." The latter became the focus of these findings since examinations were addressed in the previous section.

Clinical evaluation was guided by criteria on two "Comprehensive Clinical Progress Records" (one for each year) which were structured according to the four steps of the nursing process (assessment, planning, implementation, and evaluation) and according to personal and professional growth. The criteria associated with these objectives were particularly reflective of the nursing process as described by Roy. First level behaviors and second level stimuli were specifically identified in the objectives as were subsequent steps of the nursing process.

In commenting on formal student evaluation, one faculty member stated, "The criteria that we are using [for student evaluation] are based on the Roy Model." Another faculty member mentioned informal student evaluation:

> I would like to be verbally quizzing the students more than I do . . . to get a more realistic view of their thought process. I would love to be able to work with another teacher on a ward and see how she . . . gets this information from students.

It was evident that the nursing practice evaluation tools used by the Health Sciences Centre School of Nursing were based on concepts inherent in the Roy Adaptation Model. The framework for the tools was provided by the model with particular emphasis on the nursing process.

Faculty Evaluations

Information about faculty evaluation procedures was obtained primarily during the interviews. In addition, the Health Sciences Centre School of Nursing "Teacher Evaluation Form" was available for review. The objective of this assessment was to determine the extent to which the individual's use of the Roy Model in teaching situations was considered in performance evaluation.

Information for each faculty member's evaluation was typically obtained through observation, anecdotal recordings, and self evaluation. The criteria were set forth in the "Teacher Evaluation Form." A number of the criteria addressed use of the nursing conceptual model indirectly and one stated that evaluation of theory content and delivery was assessed for adherence "to the Roy Model and the nursing process." Those criteria with indirect reference to the model referred to application of theory in the clinical area and functioning within the philosophy and objectives of the School.

Faculty members' perceptions of their performance evaluation were inconsistent with the above description: four individuals stated that their use of the nursing model was not addressed in evaluative discussion. It was noted by two faculty members that they had not yet received an evaluation because of their recent hiring and two stated that it had been over a year since their last review (due to a recent change in administrative personnel) and that they found it difficult to remember the topics addressed.

The following quotations illustrate how four faculty members responded to the question of whether their use of the Roy Model was addressed in evaluation procedures.

> Yes, by our coordinators as to how we feel--comfort in working with the Roy Model, how we feel we've used it. Clinically, if our anecdotes from the students are reflecting this, our exam questions are working towards it. I think there's some emphasis there. I'm not sure that it's a big part of our evaluation.
>
> It's not based on the Roy Model. . . .Indirectly you might say that it is because it addresses how you're using the curriculum, how you're using the School's policies. So, if your school policy is to use the Roy Model, then you teach your students accordingly. You can say indirectly that covers the model.
>
> They [evaluations] will comment on our use of the model and we can bring examples of how we feel we are using the model effectively.
>
> I guess you could say that we are because we are evaluated on our use of the nursing process in classroom and teaching theory, what our understanding is of it and how we can answer questions in the classroom. In terms of how we are using role, interdependence and self concept--it hasn't been done to this point.

The above comments were made by four instructors who described the evaluation procedures as encompassing use of the Roy Model. The other eight people either had not had an evaluation or did not remember that the topic was addressed in their last performance appraisal. It was concluded that the Roy Model did not weigh heavily in faculty evaluation; evaluation procedures did, however, provide for general assessment of the manner in which each faculty member used the Roy Model.

Faculty

Both Stevens (1979:130) and Peterson (1977:32) have stressed the importance of faculty use of the nursing conceptual model in a curriculum. The basis for the assessment of the extent to which faculty at the Health Sciences Centre School of Nursing had implemented the nursing model in their teaching situations was the Levels of Use focused interview as described by Loucks et al. (1976:21). Twelve interviews were conducted with randomly selected faculty members--six from year one of the program and six from year two. Each interview was rated according to the procedure described by Loucks et al. (1976:41). As illustrated in Table 6.1, five individuals were rated as routine users; five demonstrated refinement; one, limited use; and one, mechanical use.

This spread of ratings reflected the revision process that was currently underway in the program and the number of people actively involved in refining course content when the site visit was conducted. There was an indication on the part of three "Routine Users" of what could be termed a "passive acceptance" associated with the use of a nursing model as a basis for the nursing curriculum as indicated in the following quotations:

> If models are currently the thing that we are to keep working with, I think it's as good a model as we can go by. . . .I'm not currently on top of the issue.
>
> I'm trying to evaluate the validity of using one model for the School and being so strict about it.
>
> If it's correct for us to be using a model, I'm comfortable with using the Roy Model.

Table 6.1

Levels of Use Ratings for Faculty Members

(Health Sciences Centre)

Level of Use	Number of Faculty	Percent
Non-use	-	-
Orientation	-	-
Preparation	-	-
Mechanical	1	8.3
Limited	1	8.3
Routine	5	41.7
Refinement	5	41.7
Integration	-	-
Renewal	-	-
Total	12	100.0

This person went on to say,

> There's a lot of terminology and a lot of things when you are introducing a model that are so specific to a model all the time and to Roy that you want to make sure that it's absolutely practical for them so that the students can use it afterwards. Are you giving them a separate set of terminology that isn't going to be useful for them? Are there more practical ways or different concepts that we could use to get them to process and assess the patient and identify all of the problems without a specific set of terminology like Roy's? I guess we would need more data on what other people are using that's not a nursing model and how that's working for making sure that all of the information is covered and that there's continuity and growth from the first year to second year. I'd always be open to whatever is best for the student and there certainly are some times when I feel we're getting bogged down in so much Roy that it's at a level above the two-year program. We try to make it simple for them.

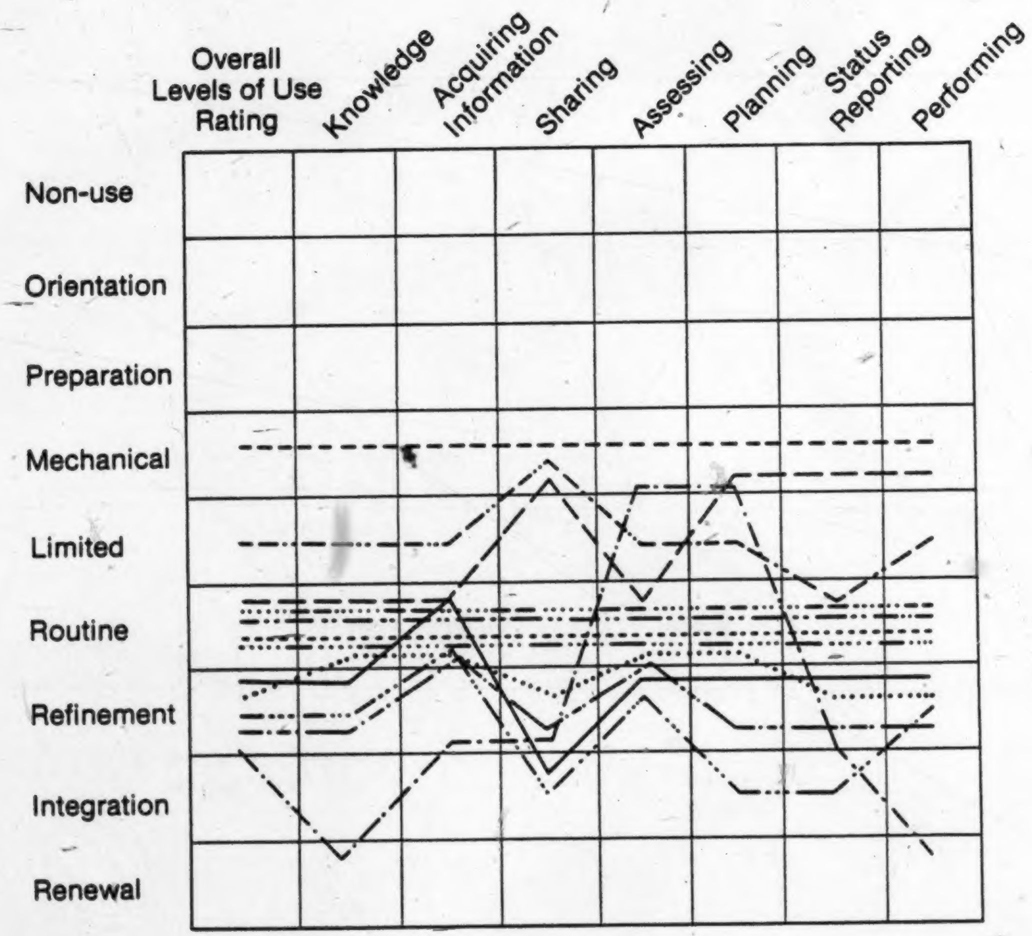
Rating of the Levels of Use interview also involved the development of a category profile for each person relative to seven behaviors associated with the use of the innovation, in this situation, the Roy Adaptation Model. These category profiles are illustrated in Figure 6.1. Operationalization of each of the categories as they relate to the various levels can be found in Appendix A and, for the "Limited Use" category developed for purposes of this study, in Chapter 3. The implications of the Levels of Use category profile will be addressed in the interpretive discussion in Chatper 8.

Throughout the course of the interview, each individual was asked to identify the strengths and weaknesses that they perceived in relation to the use of the model in their teaching situations, both in the classroom and clinically. Most of the individuals identified a major strength of the model as the biopsychosocial view of the person. One person's comment is representative: "I like the way it looks at the whole person--the biopsychosocial being." Other persons commented on

Figure 6.1

Category Profiles of Interviewees

(Health Sciences Centre)



the organizational framework that the Roy Model provided for nursing activities. The following quotations illustrate these comments:

> It's well defined in terms of where your outcomes come from, where your interventions come from. It's sort of a neat little package that you can tie everything in with. For the beginning students it's very convenient to have something concrete to work with.
>
> Once the students grasp what we are trying to teach them, I think they really start to think about rationale for why things are happening and rationale for why they're doing what they're doing.
>
> It's a nice organizational system in terms of whether you have planned complete care. You can think of what the needs and modes are. Identifying potential problems because of the level two which I think is so much clearer than dealing with etiology or precipitating factors and all those other terms you see in textbooks.
>
> A beginning student almost has a recipe for what to work with.

Concerns associated with curricular use of the Roy Model were categorized into eight areas: complexity of the model, nursing diagnoses, psychosocial modes, priority setting, categorization, consistency, practice-related concerns, and general student problems. Each of these areas of concern is illustrated in the ensuing discussion.

Complexity of the model. Three faculty members who were interviewed during the site visit expressed concerns about the complexity of the model and its use in a two-year nursing program. One faculty member expressed the following concern:

> I think that it [the model] can be incredibly complex and I wonder if sometimes I don't oversimplify it--make it easier for me to understand and for the students to understand. . . .One problem with the model is that, in a two-year program, you don't have that much time to teach the theory behind it all. You've got to get it down to a practical level for they [the students] don't have much time to learn.

The following quotations illustrate similar concerns voiced by other faculty members:

> The way we're teaching the model, I'm wondering if we're interpreting it at too high a level for a diploma program. We talk about manipulating second level stimuli--even some of the language that's associated with the model, for a diploma student--I'm wondering it it's too much at once. . . .Maybe Roy is too high a level for a diploma program. To be teaching it the way we are, maybe it's not that realistic. The level of processing that we expect from our students may be a little bit too much for a diploma program. I'm finding it good for clinical teaching but I really keep it to a watered-down level. The feedback we've had from the Year II people is that the students are able to process quite well so we must be doing something right.

> Sometimes they [the students] have quite a difficult time just grasping the model and we spend a lot of time teaching that. I don't know that in a two-year program that we should be taking the time to do that. By the end of Term I, they start to understand; by the end of Term II, they start to feel comfortable with it. In the long run, I really like the way the students think. Maybe in the end it's o.k.

Nursing diagnoses. Another topic that appeared to be on the agenda of a number of faculty discussions related to nursing diagnoses:

> I have trouble tying in the Gordon [1984] manual [North American Nursing Diagnosis Association] diagnoses with exactly how Roy wanted the model used. . . .Students have problems identifying the first and second levels and how to relate the second levels in nursing diagnoses and interventions.

> We focus on Gordon [1984] in our nursing diagnoses and I'm not so sure that that works so well with Roy.

> [Speaking of nursing diagnoses] In Year I we're just wanting them [the students] to identify what behaviors are not adaptive, what's ineffective. In Term III, there is some expectation (and some mixed expectations) for wanting the student to take the diagnoses and derive behavioral outcomes. I'm not sure they're ready for that step. Their knowledge base is just not there because so much in Roy is managing your second level stimuli and a year one student just begins to have some foundation by Term III.

Psychosocial modes. The manner in which the psychosocial modes have been dealt with in the program has varied over the course of the implementation. As one faculty member described,

> At one time, we basically got rid of a couple of the modes in the psychosocial area--we sort of joined them together. We've now separated them out again. . . .The students have learned self concept, interdependence and role in first year and I think, as they use it, the students in second year (and as it's used later on in first year), lose their perspective on the three different modes as they're presented initially. . . .The students found the three areas very hard to understand separately so we've gone the route of combining the three and role shows up as second level as does the interdependence/dependence but I think they lose assessing those three areas in as much depth as they should be doing. At times, it takes teacher direction to go back and assess certain level one factors.

There appeared to be in the former statement an uncertainty about the decision to deal with the psychosocial modes separately in clinical assessment of the patient. Although the advantage of separating the modes was recognized, misgivings about the clinical application of that approach were expressed.

Two other faculty members commented as follows on this issue:

> Physiologic needs are easy--easier--they're more concrete. The diagnoses when we get into the psychosocial modes are probably a little more unclear for me and we've altered that a little more this year and my degree of comfort in that area is still a little snowy.

> The way that it's being presented initially [with the three modes separated] should be a lot clearer. It's kept as simple as it could possibly be in terms of its presentation. In second year we are following through what has been taught in first year to the letter. It's just an extension of what has been taught in first year as it applies to [second year experiences].

Priority setting. The students' ability to set priorities was another topic of discussion for three faculty members:

> Some of the students will find it difficult to transfer from everything to being able to focus and priorize. . . .When we

> give them the whole thing it sometimes takes a lot of pain and adaptation on their part to learn how to go from doing the whole thing to being able to focus on their particular patient and know what is important to see.
>
> One of the problems I was having was making students put what was relevant together. They would give me all of the level ones; they weren't really starting to focus on what level ones were relevant for a particular diagnosis.
>
> We do a lot of work [in second year] on nursing diagnoses. They're at a more simplistic level with it in first year; in second year they start off with ten diagnoses and then, as they go along, they can see the interrelatedness of some of these diagnoses and then start using the diagnoses as level two and get into the really interrelated plans and may get it down to three workable diagnoses. We refine their assessment skills and add to their ability to assess: given the level twos, what are the potential solutions?

Categorization. Three people commented on categorization within the model:

> I have problems where you're starting to have some overlap--when you have some data that can basically apply to two or three different need areas. I'm used to . . . doing a complete head-to-toe assessment and then being able to pull out my diagnoses from that. When I'm looking at the students and they're starting to try and pigeon hole everything--I have problems with that, in the fact that there's some overlap. Some of our level ones are not as inclusive in some need areas as I would like to see them. I add what I want to. . . .This isn't rigid; you can pull in other factors if you want to.
>
> It's hard to fit in all the problems that they see on the ward . . .that don't fit directly into the need areas, like inflammation, multiproblem diagnoses like diabetes.
>
> [There is a] problem with the use of "ineffective behaviors" as opposed to "deviations from the norm". For example, a high respiratory rate in the C.O.P.D. [chronic obstructive pulmonary disease] patient may be a deviation from the norm but for that patient, it may be an adaptive behavior and we feel that, at a first year level, it's rather sophisticated thinking to have a student make those differentiations.

Consistency. One interviewee suggested that there might be some inconsistency among instructors in the manner in which concepts drawn from the Roy Model are presented to students. This was one of the concerns that was being addressed in the curriculum revision project. The following quotation portrays one person's interpretation of the issue:

> The individual teacher's interpretation of the model . . . in our program, it is leading to some confusion with the students. In Term I and Term II, it's fairly consistent among teachers but I'm really wondering if that transition is being made when we have their p.o.n. [practice of nursing] experience in year one and if that's being transferred to Year II.

There was some indication in the interviews as to how inconsistencies in interpretation could feasibly arise. Three faculty members did express that they were unsure about their understanding of the concepts inherent in the model. This feeling was illustrated in the following quotations:

> I've just been using it [the Roy Model] as I've gone along and learned it as I've gone along. I just find that I've basically had to change some of my terminology around. . . .I've never really thought about how I use Roy, I just basically use the terminology. . . .I've had to learn this as I go along; I've basically been putting my own thing into it. I develop whatever.

> I basically did my work on my own. I wish I had had someone to talk about it. I see mistakes I made in my modules that maybe wouldn't have happened if I'd had someone to bounce the idea off of.

> All I've learned is what I've picked up from other teachers or other comments going on. I don't even know how good my knowledge base of the Roy Model is.

Practice-related concerns. One person commented on difficulties associated with the use of the model in a practice setting that is not model based:

> We are using the Roy Model; the hospital across the way is not familiar with the Roy Model. So in terms of the language--we don't speak the same language--that has made it more difficult.

General student-related problems. Three comments related to general problems associated with student understanding of concepts inherent in the model. As one person stated,

> Students have a lot of problems with second level description. They have problems with setting goals in the beginning and they have major problems with interventions but we relate that to their weak knowledge base at this point [November of first year].
>
> We introduce the model and I think we teach to it fairly well in Year I. I'm beginning to feel that we're beginning to jump the gun. We're wanting them to take their second level stimuli and manage them and set their interventions to that but at the same time, we don't actually teach specific nursing interventions. It leads to some confusion. Once they pull that all together, Year I and Year II teachers teach this Term III experience and Year II is still geared up from their students who have finished the program. For them to come down to that level of teaching the Year I students and helping them continue processing at the level they've been taught, there's been some problems.
>
> I think our students are very good. They assess very well. I think their weaknesses are still planning and implementation.

It was the overall perception of the researcher, in talking with the faculty members, that the majority of faculty members had established a routine pattern of using certain concepts associated with the nursing conceptual model used in their program. The need areas and associated adaptation problems were particularly evident. Although the four modes were inherent in these concepts, it appeared as though their significance differed in importance and application. The influence of the nursing process as described in the conceptual framework was pervasive.

There appeared to be a relationship between a faculty member's confidence in understanding and use of the model and the person's participation in some manner in the curriculum revision procedures. Those that were either involved in the planning or in the process of revising their materials appeared to be more comfortable with concepts inherent in the conceptual framework and the manner in which these were reflected in each part of the program. Faculty members not yet at that stage tended to be uncertain of what implications the changes were going to have for them and indeed felt that the changes would be minimal, involving primarily alteration of terminology.

There was variability in satisfaction with the use of the nursing conceptual model as the basis for the program. Some persons felt that the model provided an ideal organizational framework for the theory and practice of nursing; others were uncomfortable with its use in a two-year diploma program. There were both concerns and advantages expressed by faculty members regarding the manner in which the model had been incorporated into the Health Sciences Centre School of Nursing.

Students

The importance of student perception of the manner in which the nursing model has been incorporated into the curriculum was stressed earlier in this dissertation. According to Peterson (1977:32), students should be able to describe the nursing model, how it has shaped their program, and how they personally use it. The questionnaire described in Chapter 3 and contained in Appendix F was designed to assess these perceptions.

During the site visit to the Health Sciences Centre School of Nursing, it was possible to give the questionnaire to selected students in each year of the program. Students were identified randomly by instructors and asked to report at a particular time in order to complete the questionnaire. Ten first year and eleven second year students completed the questionnaire. This represented about ten percent of the student body. In this report on the associated findings, each item of the questionnaire is addressed and where relevant, responses provided by students in each year of the program are segregated.

Identification of the nursing model. The first item on the questionnaire addressed the student's awareness of the program's nursing conceptual model: "Are you aware of a specific model for nursing that forms the basis for your nursing program? If so, what is it?" All students identified the Roy Adaptation Model in response to this item.

Identification of elements. Identification of the elements of the nursing model was the topic of the second item: "What would you identify as essential elements or key concepts of the nursing model underlying your nursing program?" An encompassing response to this item would be "the person, the environment, the goal of nursing, health, and nursing activities" and one first year student provided this. Other first and second year students tended to focus on one or two of these five concepts. The numbers in parentheses indicate the number of students making a particular response.

The most frequent response from both first and second year students was the identification of one or more steps of the nursing process. This response was followed in frequency by the identification of the biopsychosocial nature of the person. The remaining responses focused on one of the major elements identified previously and referred to such concepts as the adaptation view of the person, the holistic approach to nursing, and the goal of nursing.

Two persons made comments that provided further information about their perception of the model. One person expressed concern that the spiritual aspect of the person is missing from the model:

> I feel that the Roy Model leaves out one very important aspect and that is . . . the spiritual aspect which needs attention and care and we aren't encouraged to address this part of our patients.

A second person, in identifying the steps of the nursing process stressed that assessment is the most important concept associate with the model.

What is nursing? Students were asked to describe what they were first taught about "what nursing is." The responses of the students to this item were divided into four categories: (1) the identification of descriptive characteristics or qualities of the nurse, (2) descriptive terminology pertaining to nursing, (3) activities involved in nursing, and (4) those concepts that can be classified as more encompassing than the previous ones.

Terminology that reflected the characteristics or qualities of nurses were identified exclusively by first year students. The words that were used were "compassion," "honesty," "nonjudgemental," and "respectful." Descriptive terminology about nursing was also offered exclusively by first year students and included the terms "meeting needs," "patient oriented," "community oriented," and "individualized."

Activities involved in nursing were frequently identified by both first and second year students and included such concepts as "caring for the patient" (the most frequent response), a scientific or problem-solving process (or portions thereof), "alleviating suffering," and "working with the health team."

Students in both years of the program described nursing using broad concepts. These related to nursing as the promotion of adaptation and health, nursing as the maintenance of biopsychosocial health (a common second year response), nursing as prevention, and nursing as promoting dignified death. It was noted that nurses in the second year of the program tended to be somewhat more encompassing in their responses than did first year students who tended to focus on the personal functioning of the nurse. Reflective of their stage in the program, the second year students introduced the role of the nurse with the dying patient, the concept of prevention, and the nurse's role in working with the health team.

The following quotations illustrate some of the responses provided by the first and second year students:

> Nursing is caring for someone, trying to meet that person's needs as well as being compassionate in the process. [First year student]
>
> Nursing is a caring profession. A nurse must be honest and the patient is the most important. A nurse has obligations to the patient, herself, and the School. [First year student]
>
> Nursing entails the caring for the ill, being respectful of them as persons and keeping whatever prejudices about race, nationality, etc., in perspective and treat them as you would have them treat you. [First year student]
>
> [Nursing is] the maintenance of an optimal level of health in an individual in the physiological and psychological modes while at

> the same time maintaining the individual's self esteem and integrity. [Second year student]
>
> [Nursing is] care of the whole person with these concerns: prevention of illness, alleviation of suffering, restoration of health, maximum development of health potential, allowing dignified death, together with other health team members. [Second year student]

Conduct of the program. Item four represented an attempt to identify the students' perceptions of how the nursing model actually affected the conduct of their nursing program. Three major ideas were presented by both the first and second year students. Eight persons asserted that "the whole program is set up around the model." Eight others suggested that the model formed the basis for the nursing process and five pointed out that the model directs the manner in which the patient is perceived and assessed. The role of the Roy Model in the nursing program appeared to be very clear to virtually all of the students responding to the questionnaire.

The following statements provide examples of the students' responses:

> All of our program is directed toward the identification of the parts making up the key elements of the nursing model and, following that, the use of the scientific problem-solving method to provide the highest standards of intervention possible. [First year student]
>
> We are taught in an organized, systematic manner, covering all need areas in the four modes. Every time we cover a different need or mode, it is added on to our nursing process as we go along so that we get a continuous overview. [First year student]
>
> The nursing program follows the Roy Model exactly, that is, observing what you see--first level, data supporting what you see--second level, goals--behavioral objectives, nursing interventions, and evaluation. Instruction is really geared toward decision making and planning based on the Roy Model. [Second year student]

> Our whole program is encircled around the Roy Model. [Second year student]

> It [the model] is the core of the organization and philosophy of the program. [Second year student]

> The process is easy to understand and eliminates any confusion. We were first taught the process in steps and how each step influences the other ones. The staff stressed that the process was a continual process. [Second year student]

One student expressed a concern about the manner in which the model is presented, suggesting that the presentation of the model in Year I is incomplete: "It should be more thoroughly taught, perhaps through more seminar situations."

Care of patients. Students' perceptions of the effect of the nursing model on their care of patients was the topic of the last item: "What influence does the nursing model have on what you do when you are caring for patients?" The most common response to this item referred to the framework provided by the model for the nursing process and patient care. The nature of the person according to the Roy Model was identified frequently, as well. The following quotations illustrate some of the responses provided by students in response to this item:

> The Roy Model of Nursing helps me to set out assessing my patient in a careful selective manner and realizing behaviors are influenced by specific stimuli/environmental factors. The model again helps me to view the patient not only in medical terms but also as a holistic being influenced by many facets of life. [First year student]

> [The model] gives me a systematic approach to deal with first level behaviors and the second level stimuli affecting them so that I can correlate them and plan the proper nursing interventions. [First year student]

> Found I do in fact base my plan of care on the Roy Model. Found that this year the model has really come together and does make sense. [Second year student]

> I see them [patients] as more than just physical beings. They also have psychological needs and social needs. If I were to design the model, however, I would have included the spiritual aspect of man. The nursing process definately allows me to organize my assessment, planning, etc. better (to organize my thoughts and my care). [Second year student]

The reference to the spiritual nature of the person in the preceding quotation was made by a student other that the person that who identified the concern in discussion of the key concepts associated with the model. It thus appeared that at least two students perceived that the spiritual nature of the person had been overlooked in the nursing conceptual basis for the program (the Roy Adaptation Model).

The primary concepts identified by students as influencing their care of patients were the framework provided by the model for patient care (the nursing process) and the description of the nature of the person. The majority of students were able to describe how the nursing model affected the conduct of the program and recognized how it actually influenced their care of patients.

Summarizing Remarks

Three topics were selected for summarizing discussion relative to the manner in which the Roy Adaptation Model had been implemented in the Health Sciences Centre School of Nursing. These pertain to (1) the manner in which the curriculum had been designed and set forth by documentation, (2) the evidence of use of the model in terms of faculty and student performance as perceived during interviews with faculty and through the questionnaire completed by selected students, and (3) the concerns raised by faculty regarding the use of the model in the program.

Use of the Roy Adaptation Model as the nursing conceptual basis in the program was evident throughout the curricular documentation. The philosophy, terminal objectives, curriculum structure, course content, classroom and clinical activities, assignments and examinations, patient assessment procedures, and student evaluations all bore evidence of extensive application of the nursing process according to the Roy Model and Roy's view of the person, with particular reference to needs associated with each mode and their relevant adaptation problems. The influence of the Roy Model was not evident in the curricular dimensions of promotional materials or course bibliographies and did not weigh heavily in faculty evaluation procedures as perceived by the majority of faculty.

Inherent in the nursing conceptual component of the framework for curriculum development were a number of adaptations of the model for purposes of the program at the Health Sciences Centre. These pertained to (1) specific identification of the needs related to each of the four modes, (2) the modification of the six-step nursing process described by Roy by amalgamation of the first three steps into one assessment phase, (3) the ten common stimuli identified for program purposes, (4) the specification of five general categories of nursing interventions, (5) the description of the goals of adaptation as being survival, growth, and control and subsequent association of reproduction with the physiological mode, (6) the association of the spiritual nature of the person with the interdependence mode rather that with self concept, and (7) the description of the "nurse/patient partnership." The first four alterations to the model were evident throughout the curricular documentation, in particular, while the influence of the latter three was not as readily apparent.

The sources of information regarding personal application of the Roy Model by faculty members and students were the interviews of randomly selected faculty members and the questionnaire completed by selected students from the two years of the program. The faculty interviews were rated for Levels of Use of the Roy Model and were rich in description of the manner in which the model influenced performance in the teaching situation. Student perceptions of the effect of the model on their nursing program were evident in the responses to the questionnaire.

According to the Levels of Use rating and descriptive comments provided by faculty members, the majority of faculty members were either at a level of Routine Use or Refinement in their application of the Roy Model. By virtue of their acquaintance with the concepts inherent in the model, two faculty members were rated as Limited and Mechanical users. There was evidence that the mode-associated need areas and the nursing process had an extensive influence on the manner in which faculty members interacted with students in both classroom and clinical situations.

All of the students completing the questionnaire could identify the Roy Adapation Model as the nursing conceptual basis for their program. There was evidence that the model and its associated concepts, particularly the nursing process and the view of the person, did have an influence on the thought patterns of the students as they cared for patients.

The organizational framework provided by the Roy Model as the nursing conceptual basis for the program was appreciated by faculty members. However, eight categories of concern were identified by faculty members relative to the manner in which the model was used in the program. These concerns related to (1) the complexity of the model with respect to the level of students in the program, (2) problems associated with nursing diagnoses, (3) problems in dealing with the psychosocial modes, (4) students' abilities to set priorities, (5) categorization within the model, (6) consistency of interpretation of concepts, (7) practice-related concerns, and (8) general student-related problems.

The findings of the third site visit are presented in the next chapter. Interpretation of the findings from each of the programs visited is the topic of the concluding chapter in the dissertation.

CHAPTER 7

Site Visit--Keyano College

The site visit to Keyano College in Fort McMurray, Alberta was conducted on December 9 and 10, 1986. In this chapter, the findings of that visit are presented. As in the previous chapters, a description of the program and a brief history of the events preceding the decision to adopt the Roy Adaptation Model as the nursing conceptual basis for the curriculum are presented as background information. A description of the program's conceptual framework is also provided. The extent to which the concepts inherent in the Roy Model are evident in each of sixteen curricular dimensions is presented.

Background Information

The chapter begins with a description of the program in terms of its length, size relative to numbers of faculty and students, and the type of institution with which the program is associated. Secondly, the recent history of the program is explored with particular attention to the manner in which the decision came about to adopt the Roy Model as the nursing conceptual basis for the program. Thirdly, a description of the program's conceptual framework for curriculum development is presented.

Description of the Program

Keyano College offers a two-year college-based nursing diploma program. Approximately 24 students are admitted to the program each year and an average of 18 persons graduate. There are nine faculty members.

The program extends over a two-year period with two 16-week semesters consisting of theory and clinical practice and one 12-week practice semester each year. The total length of the program is 88 weeks and upon successful completion of the course of studies, students are prepared to write the Canadian Nurses Association Testing Service examinations. Successful completion of these examinations qualifies the graduate for registration with the Alberta Association of Registered Nurses. These nurses are prepared to work as beginning level staff nurses in health facilities such as acute or extended care hospitals.

A Brief History

The history of the Keyano College nursing program is relatively short; the first class of students was accepted into the program in September 1983. Details of the planning for the program have been preserved in a document entitled "Proposal: Diploma Nursing Program," prepared by Karen Polowick (1982), the nursing consultant responsible for initial planning of the nursing program.

Keyano College was established in 1975 as a regional provincial college and in 1979 initial interest in the establishment of a diploma nursing program became evident. According to Polowick (1982:1), March 20, 1981 marked the date of a joint announcement by the Alberta

Departments of Advanced Education and Manpower and Hospitals and Social Services that funding for a new diploma nursing school in Fort McMurray was being made available.

Delays in the recruitment of a director/coordinator for the program prompted the hiring of a nursing consultant to develop the proposal and curriculum design including the philosophy, conceptual framework, objectives, course descriptions, and clinical experiences associated with the program. According to Polowick (1982:5),

> The Roy Adaptation Model was selected as the basis of the diploma nursing program. The model clearly delineates the steps of the nursing process which are essential to the practice of a generalist staff nurse. Furthermore, the model describes man as an adaptive system, a concept closely related to the focus of primary care of the Fort McMurray Regional Hospital.

It was important to note that Karen Polowick had had previous experience with the application of the Roy Model in an educational situation; she was one of the key curriculum planners at the time that the Roy Model was implemented as the nursing conceptual basis at the Royal Alexandra Hospitals School of Nursing in Edmonton, Alberta. The influence of the Royal Alexandra nursing program was evident in the Keyano College program; that is, it was possible for Polowick to capitalize on positive features of the Royal Alexandra implementation and yet develop a unique program that would meet the needs of a nursing program in Fort McMurray. The following statement provided evidence of that influence:

> Keyano College acknowledges the work of the Royal Alexandra Hospital School of Nursing in developing a clear [diagrammatic] conceptualization of the Roy Adaptation Model (Polowick, 1982:25).

Polowick (1982:225) proceeded to explain that the diagrammatic conceptualization, as illustrated in Figure 7.1, "depicts man as an adaptive system and is based on Sister Callista Roy's most recent description of the model." This diagrammatic conceptualization assisted with the delineation of the knowledge component of the conceptual framework.

As the director and faculty members were hired for the Keyano College nursing program, a commitment was made to the maintenance of the curriculum as it was developed and to the restraint from substantively changing the basic curriculum design until several classes of students had progressed through the program. At the time of the site visit, no substantive changes had been made to the original curricular design.

The Conceptual Framework

The conceptual framework for the Keyano College nursing program addressed three major components: knowledge, the setting, and the learner. Since it was within the knowledge component that the major nursing concepts were outlined and this component served as the nursing conceptual basis for the development of the curriculum, attention was focused on that portion of the conceptual framework for the purposes of this research.

The Roy Adaptation Model was specifically identified as the conceptual model forming the basis for the nursing curriculum as evident in the following quotation:

> Keyano College has adopted a nursing model, the Roy Adaptation Model, as a basis for the nursing curriculum. The basic assumptions of the model, that (1) man is a biopsychosocial being, and (2) man is an adaptive organism, constantly interacting with a

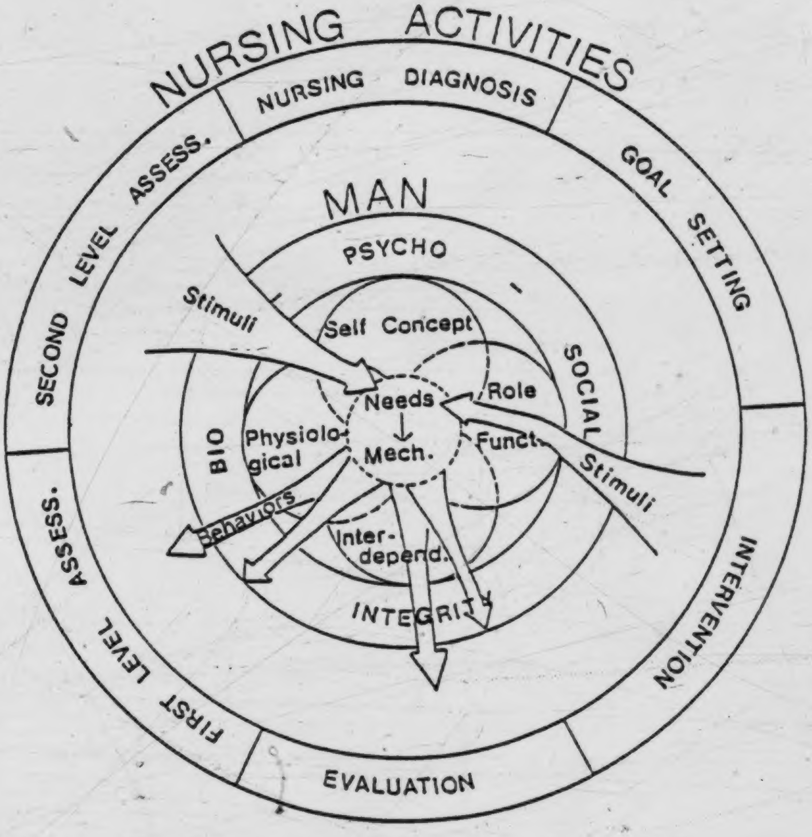

NURSING ACTIVITIES
NURSING DIAGNOSIS
GOAL SETTING
INTERVENTION
EVALUATION
FIRST LEVEL ASSESS.
SECOND LEVEL ASSESS.
MAN
PSYCHO
-
SOCIAL
BIO
Stimuli
Self Concept
Role
Needs
Mech.
Physiological
Funct.
Interdepend.
Behaviors
Stimuli
INTEGRITY

Figure 7.1

Diagrammatic Conceptualization of the

Roy Adaptation Model

as developed at the

Royal Alexandra Hospitals School of Nursing

Edmonton, Alberta, Canada

(used with permission)

> changing environment, are reflected in the statements describing the recipient of nursing care, the goal of nursing, and the nature of nursing practice.

As evident in the above quotation, three major concepts were described in the knowledge component of the conceptual framework: the recipient of nursing care, the goal of nursing, and the nature of nursing practice. The recipient of nursing care was defined as the patient (individual, family, or community) "who is experiencing difficulty in adapting to changes in the internal or external environment." The ensuing statement (Polowick, 1982:24) directly reflected Roy's description of the person and was attributed to Roy and Roberts (1981:43):

> The patient is an adaptive system with coping abilities which maintain adaptation within four modes. The four modes are related to a biopsychosocial and spiritual nature of man. The underlying needs of the physiological, self-concept, role function, and interdependence modes must be met for man to achieve adaptation and optimum wellness.

As with the other two nursing programs involved in this research, the spiritual nature of the person had been adapted for program purposes. In this situation, the spiritual nature of the person was selectively added to the conceptual description. Whereas Roy's earlier works (for example, Roy, 1976:11) identified the "biopsychosocial" nature of the person, more recent editions have tended to depart from use of that particular terminology.

The goal of nursing was described as the promotion of "adaptation in each of the four adaptive modes during situations of health and illness," a statement attributed to Roy and Roberts (1981:45). The basis for description of nursing activities was Roy's six-step nursing process as presented in Roy (1976:21-39). The following quotation has been extracted from the nursing conceptual description and illustrates the manner in which the nursing process was described:

> The nurse uses a problem solving approach, the nursing process, to assist the patient in achieving adaptation. There are six steps of the nursing process, as outlined in the Roy Adaptation Model.
>
> 1. **First level assessment.** Assessment of a patient's biopsychosocial and spiritual behaviors within each of the four modes.
>
> 2. **Second level assessment.** Assessment of common factors or stimuli which affect a patient's adaptation during health and illness. Common classes of stimuli are disease processes, developmental stage, and life style patterns.
>
> 3. **Nursing diagnosis.** Identification of the patient's actual or potential difficulty in achieving adaptation. The patient's behavior and the most likely causative factors are summarized into a statement of the patient problem.
>
> 4. **Goal setting.** Establishment of goals in terms of patient behaviors, which are measurable and indicators of the restoration of adaptive responses.
>
> 5. **Intervention.** The selection and implementation of nursing approaches aimed at altering, removing, or maintaining the causative factors of the patient behaviors. Nursing approaches include both interpersonal and psychomotor skills.
>
> 6. **Evaluation.** Reassessment of patient behaviors in terms of the established goals and modification of nursing approaches as necessary.

As was evident in the conceptual description of the patient, the spiritual nature of the person was highlighted in first level assessment.

Although not articulated in the conceptual description of nursing, common stimuli were identified for program purposes:

1. growth and development,
2. presence of disease pathology,
3. physiological integrity,
4. medical management,

5. environment,
   a. physical,
   b. psychological,
   c. social,
6. cognator effectiveness,
7. culture, and
8. belief system.

These eight common stimuli formed the basis for second level assessment throughout the program although there was selective emphasis on some of the factors, depending on the mode being assessed.

In addition, the identification of needs associated with the physiological mode constituted a facet of the conceptualization of the person and thus influenced program organization. Nine physiological needs were identified:

1. activity, comfort, and sleep;
2. protection, safety, and integument;
3. oxygenation;
4. elimination;
5. nutrition;
6. the senses;
7. fluid and electrolyte balance;
8. neurological function; and
9. endocrine function.

The primary concepts that were addressed in the Keyano College nursing program's conceptual framework were Roy's description of the person (with the addition of the spiritual nature), the environment, the goal of nursing, and nursing activities. Although the concept of health was mentioned (optimum wellness being the term frequently identified), the concept was not specifically defined. Each of these conceptual descriptions was clearly based on the Roy Adaptation Model.

Findings

In accordance with the conceptual framework for this research, sixteen curricular dimensions were assessed to provide information about the manner in which the selected nursing model was implemented at Keyano College. Each of these dimensions is described and analyzed in the following presentation of findings.

Promotional Materials

Promotional materials have been previously defined as the means by which the nursing program is portrayed to the general public and to prospective students. The promotional materials reviewed for the Keyano College program consisted of an information poster about the nursing program, the College calendar, and the College newspaper entitled *Yours, Mine and Ours*.

The information poster pertaining to the Keyano College Registered Nurse Diploma Program was typically posted in high schools throughout the northern and central parts of the Province and in the College premises. In addition to providing information about Fort McMurray and Keyano College, the program, admission qualifications, and application procedures were addressed. Of particular interest was the description of the Keyano College nursing program. The following quotation was extracted from that description with concepts directly attributable to the Roy Adaptation Model underlined.

> The curriculum of the program is developed around *Sister Callista Roy's adaptation concept*. The program believes that the nursing client is a *biopsychosocial* and spiritual *being* who requires assistance in *adapting to his/her environment*.

The particular concepts that have been identified in the above quotation pertain to the person and the environment.

The description of the program in the College Calendar was the same as that provided on the poster. Course titles were also provided and the influence of the Roy Model was evident throughout the nursing courses: "biopsychosocial modes" and "adaptive and ineffective responses" constituted the terminology used in the course titles.

In addition to the above promotional materials, nursing program personnel described a conscientious effort to ensure that a submission is made to each issue of the College newspaper. The December 1, 1986 issue addressed a joint testing bank based on the Roy Model and being developed cooperatively by Keyano College and the College of New Caledonia in Prince George, British Columbia. (This endeavor will be presented later in this chapter.) Plans for the next report related to the faculty's involvement in this particular research undertaking.

In conclusion, the Roy Adaptation Model and its inherent concepts (the view of the person, in particular) were evident in promotional materials.

Philosophy

The philosophy statement for the Keyano College nursing program addressed basic beliefs about health, the recipient of health care, nursing, and learning. The first three concepts were of particular interest for the purposes of this investigation.

Each concept in the philosophy contained at least one statement attributable to the Roy Adaptation Model. For example, health was defined as "an optimum state of biopsychosocial and spiritual well-being." (The underlining denotes Roy Model terminology, here and throughout this report on the findings.) The recipient of health care, the patient, was described as having "biopsychosocial and spiritual needs which must be met in order to maintain optimum wellness."

Although it was generally not expected that philosophical statements identify or quote the model used as the nursing conceptual basis for the program, the concept of the biopsychosocial nature of the person was reflective of the nature of the person as described by Roy. The remaining statements constituting the philosophy were viewed as compatible with the concepts associated with the Roy Adaptation Model and nursing models in general.

Terminal Objectives

The terminal outcomes for the Keyano College Nursing Program related to three major areas of competence: the nursing process, leadership and management, and professionalism. The objectives relating to the first area, the nursing process, were of particular interest. These objectives are quoted.

> The graduate of the Keyano College Nursing Program will be able to:
>
> 1. assess the biopsychosocial and spiritual responses of each client,
> 2. identify the stimuli affecting the responses of each client,
> 3. establish nursing diagnoses by associating the client's priority responses and stimuli,
> 4. establish short- and long-term client centered goals aimed at promoting, maintaining, restoring health, and preventing disease,

5. plan and safely implement nursing interventions to assist the client in promoting, maintaining, restoring health, and preventing disease,
6. evaluate the outcome of nursing interventions by assessing the client's progress towards goals.

The two concepts that are inherent in the Roy Model and were apparent in the terminal outcomes of the program were the biopsychosocial nature of the person and the responses (behaviors) and stimuli that are the focus of first and second level assessment in the Roy Model nursing process. Other concepts inherent in the Roy Model could also be isolated in the terminal outcome statements but, because these are common to nursing models in general, they were not extracted for discussion.

Curriculum Structure

The manner in which the courses of study are organized and integrated (the curriculum structure) is discussed in terms of content threads, process threads, and major content areas or blocks. It is to be expected that each of these factors is typically influenced by the nursing conceptual framework as designed for the program.

The nursing program at Keyano College consisted of six semesters, three in each year of the program. The first two semesters in each year (sixteen weeks in length) involved both theory and clinical practice while a twelve-week clinical experience was provided in Semesters III and VI. Most of the clinical experience was provided at the Fort McMurray Regional Hospital although environments such as community agencies, client homes, and other northeastern Alberta hospitals were used.

In Semester I, the Roy Adaptation Model was introduced and an overview of the four adaptive modes was provided. Each need related to the modes was addressed together with related basic nursing interventions. Semester II introduced the students to simple ineffective responses and interventions as associated with stress and illness and related to all needs in the physiological mode and the three psychosocial modes. Semester IV addressed common nursing diagnoses associated with the needs and modes and related to medical, surgical, and psychiatric problems while Semester V dealt with maternal-child nursing. Semesters III and VI provided for clinical consolidation and application of the knowledge and skills learned throughout the associated years of the program.

Process threads. Process threads have been defined earlier in this document as those concepts that are emphasized throughout the curriculum with increasing expectation of student skill. Three major process threads were identified in Keyano College curricular documents as forming the basis for the program: the nursing process, professionalism, and leadership and management. In addition, the four modes and their associated needs, although introduced sequentially in Semester I, became process threads throughout the remainder of the program. There were content situations, such as the experience with the psychiatric patient, where particular modes were emphasized.

Content threads. Content threads represent those concepts that are integrated throughout the curriculum and introduced in a progressive manner. In some respects, the nursing process appeared to be a content thread in that the focus was on assessment and intervention in the first two semesters and adaptation problems in year two. It was recognized, however, that in each semester, students were expected, with varying degrees of competence, to tend to each step of the nursing process when caring for their patient. As mentioned earlier, the modes and associated needs represented content threads in Semesters I and II but became process thread throughout the remainder of the program. Adaptation problems, per se, became content threads in the second year of the program since their introduction was sequential throughout that segment of the program. Since nursing interventions were introduced sequentially, these became a content thread, as well.

Major content areas. Major content areas or blocks were evident in each semester of the program: Semester I focused on the adaptive individual, Semester II on individuals experiencing ineffective responses associated with stress and illness. Semester IV was associated with medical, surgical, and psychiatric adaptation problems while Semester V dealt with maternal/child nursing.

Three major organizing principles were observed. "Adaptive to ineffective" formed the basis for the introduction of behavior demonstrated by individuals being assessed, "one to many" guided the assignment of patients in the practice setting, and "simple to complex" represented the manner in which adaptation problems and nursing interventions were introduced.

Analysis of this curricular structure in terms of the Roy Adaptation Model indicated that one major element associated with Roy's description of the person had a primary influence on the design: the four modes and their associated needs and adaptation problems. In addition to serving as both content and process threads for the curriculum, the modes provided a focus for major content areas in Semesters IV and V. The needs constituted a process thread after they had been introduced in Semester I and the associated adaptation problems formed the basis for the introduction of content throughout the remainder of the program. The pervasive influence of the nursing process as a process thread throughout the curriculum was also recognized.

Course Content

In analysis of course content with respect to evidence of the concepts associated with the Roy Adaptation Model, attention was directed towards the content of the nursing courses, although it is acknowledged that the nursing model should provide direction for the selection and content of support courses, as well. Nursing courses were offered in each of the six semesters of the Keyano College nursing program and they included both theory and clinical practice in Semesters I, II, IV, and V and clinical practice only in Semesters III and VI (the twelve-week clinical practice experiences). The course descriptions provided a picture of the content of the nursing courses as they progressed throughout the curriculum and these are quoted.

Nursing 110 (Semester I) - An introduction to the Roy Adaptation Model with an overview of the biopsychosocial modes. Emphasis will be placed on applying the nursing process to these modes. The focus will be on the underlying rationale for assessment and nursing interventions with emphasis on adaptation responses.

Nursing 120 (Semester II) - Focus is on the application of the nursing process to each of the biopsychosocial modes. Emphasis will be placed on the underlying rationale for assessment and nursing interventions associated with ineffective responses.

Nursing 134 (Semester III) - A concentrated clinical component within the Fort McMurray Regional Hospital. The student will be assigned one to two patients on general medical-surgical and pediatric nursing units. The focus will be on application of the nursing process in assessing and meeting the patient's biopsychosocial and spiritual needs. Laboratory practice of nursing skills related to medical management will be included.

Nusing 215 (Semester IV or V) - An application of the Roy Adaptation Model to common nursing diagnoses. The nursing process is applied to clients encountering both adaptive and ineffective responses in the medical-surgical and psychiatric units and agencies.

Nursing 225 (Semester IV or V) - An application of the Roy Adaptation Model to common nursing diagnoses of Maternal-Child Nursing. The nursing process is applied to mothers, parents, and children experiencing developmental events and common disease pathology.

Nursing 236 (Semester VI) - A clinical experience within a hospital of northeastern Alberta. The focus will be on developing common graduate level competencies under the close supervision of a registered nurse. The student will be assigned a group of clients and rotate to a variety of client services. The student will integrate previously learned skills into the provision of total care. Opportunities for practice of leadership skills will be provided.

Needs and modes were introduced sequentially in the course content with the first five physiological needs (activity, comfort, and sleep; protection, safety, and integument; oxygenation; elimination; and nutrition) and the self-concept, role function, and interdependence modes addressed in the first year of the program. The remaining four physiological needs (the senses, fluid and electrolyte balance, neurological function, and endocrine function) were added in the second year. Course objectives for each of the nursing courses were clearly structured on the basis of the six-step nursing process as described in the Roy Adaptation Model.

Roy's view of the person as a biopsychosocial being with associated modes and needs was evident in the course content, as was the six-step nursing process on which all course objectives were based.

Introductory Nursing Course

The introductory nursing course (Nursing 110) has been described in part in previous discussion. The course was entitled "Introduction to the Roy Adaptation Model--Adaptive Responses." In addition to presenting an overview of the concepts inherent in the model as a whole, this course dealt separately with each of the modes and the first five physiological needs.

The course objectives provided an indication of the expectations associated with the material presented. These are quoted.

Upon completion of Nursing 110, the student will be able to:

1. describe the elements of Roy's Adaptation Model of Nursing,
2. describe the steps of the nursing process as they apply to Roy's Model,
3. describe the need states associated with each of the four modes,
4. describe the adaptation mechanisms within each of the four modes,
5. explain the development of the four modes by applying knowledge from the biological and psychosocial sciences.

6. apply the nursing process in classroom settings to:
    - a. *identify client responses indicating adaptive biopsychosocial states*,
    - b. *identify common stimuli which promote and maintain adaptive client responses in the four modes*,
    - c. specify a nursing diagnosis by *identifying adaptation biopsychosocial responses and most relevant influencing stimuli*,
    - d. state client-centered *goals which will promote and maintain adaptation responses within the four modes*,
    - e. select common nursing interventions to *promote and maintain adaptation responses within the four modes*,
    - f. identify the criteria to evaluate client progress toward pre-set goals.

A computer assisted instructional program addressing the Roy Adaptation Model had been prepared by faculty in the nursing program to assist students in the learning of this content. As well, students were given a programmed learning booklet as an additional activity to master concepts inherent in the model.

One faculty member, in describing the introductory nursing course, made the following statement:

> First we give them two hours of overview of Roy's model followed by the five need states in the physiological mode which are activity, comfort, and sleep; protection, safety, and integument; oxygenation; nutrition; and elimination. We go on to the psychosocial modes and we start with the self concept mode (six hours) followed by the role function mode for six hours, and then the interdependence mode. We talk about the person's adaptation through all physiological and psychosocial modes. We look at all the normal responses of the client.

The Roy Adaptation Model clearly formed the basis for the introductory course in nursing. The particular elements of the model that were evident in the documentation were Roy's view of the person, the environment, health, and nursing activities.

Patient Assessment Tools/Procedures

Three forms that served as data collection tools for the students were available for review during the site visit to the Keyano College nursing program: an organizational sheet used by the students on a daily basis; a nursing care plan format prepared for every patient during the first year of the program; and a student research sheet intended to accompany each nursing care plan.

The organizational sheet addressed primarily assessment and intervention and was constructed according to the five physiological need states addressed in the first year of the program. Additional room was provided for comment about communication and special procedures such as tests and surgery. There was also a column for the recording of patient medications. The psychosocial modes were not addressed on the format.

The nursing care plan worksheet consisted of the six-step nursing process as portrayed in the Roy Adaptation Model. Each step (first level assessment, second level assessment, nursing diagnosis, client goals, interventions, and evaluations) constituted a column heading.

The student research sheet, intended to provide specific data about the patient, addressed routine admission concerns such as activity, diet, date of admission, date of surgery, in addition to treatments, a brief history, and miscellaneous information such as laboratory results, booked procedures, and special observations. Provision was also made for the recording of important observations made by the student during the initial interview.

The influence of the Roy Model was explicitly evident in both the organizational sheet (the five physiological needs) and the nursing care plan worksheet (the six-step nursing process). The student research sheet was intended to provide information to supplement the nursing care plan; it tended to address miscellaneous information although much of the information contained on the sheet would involve important assessment data and the treatment section would be reflected in nursing interventions.

Classroom Activities

Information about classroom activities in the Keyano College nursing program was obtained during the interviews with faculty members. Of particular interest was the manner in which the Roy Adaptation Model influenced classroom activities. Two faculty members' descriptions of classroom activities are quoted:

> Our curriculum is developed along the model in the sense that, when I teach in class, I'll go through the definitions that Roy may use. For instance, if I'm using one of the physiological need states, I will define the need state and then I will talk about the cognator and regulator mechanisms that control the need state. That would be the first part of my lecture. Then I would use the nursing process. I would do a first level assessment of that need state and talk basically about adaptive behaviors/responses that occur in the need state. I would go on to second level and talk about the stimuli (focal, contextual, and residual). We use eight common stimuli here. My lecture is patterned in the sequence of the nursing process. [First year instructor]

> I use Roy's model as an outline for my courses both in medical science and in nursing. I teach only the physiological modes. Nursing is taught according to the nine needs. I teach the nursing care of a client with ineffective responses in those domains. I line up the content of medical sciences under the needs such that diseases that affect oxygenation and the nursing diagnoses that come under oxygenation would fit together. The nursing care applies to all the diseases. [Second year instructor]

One person identified some difficulty in using the Roy Model and explained what happened in her particular situation.

> In my course outline, I have put certain illnesses in each area [mode] but I find, in my area [mental health nursing], it's completely cross modal. For example, schizophrenia and the interdependence mode--I've decided I'm going to fit it in there but I find that the other two modes apply as well. So, I find that it's not clear cut in my area. Mine is not as pure as some of the other areas. I often cannot distinctly separate first and second level assessment. In the process recordings, the first level assessment is the interaction and the setting that the client is in and the second level assessment is the analysis or the interpretation plus some mental mechanisms.

Review of the nursing course outlines revealed that the physiological needs and psychosocial modes provided direction for topics addressed in each course while the six-step nursing process provided the basis for the presentation of content. Most faculty members reported that these concepts greatly influence the manner in which they presented the content in classroom activities. It was recognized that classroom observation would have provided further indication of how the Roy Model was actually applied in the classroom situation but this activity was not undertaken during the site visit to the Keyano College nursing program.

Clinical Activities

In the Keyano College nursing program, clinical activity was undertaken in the eighth week of the program. Semesters III and VI consisted of extensive clinical practice at the conclusion of each year. As has been stated previously, the manner in which clinical activities reflect the concepts inherent in the nursing conceptual model provides an indication of the extent to which the model has been implemented into the program.

The nursing practice clinical objectives provided an indication of the influence of the Roy Adaptation Model in the clinical setting. Of particular interest were the objectives relating to the nursing process. Those pertaining to the first year of the program are quoted.

> The student will use the nursing process in the care of clients whose level of adaptation ranges from peak wellness to simple ineffective responses. She/he will:
>
> a. gather data from relevant sources;
>
> b. identify client responses (adaptive or ineffective) through interview, observation and measurement (first level assessment);
>
> c. identify stimuli (focal, contextual, residual) which influence the client response (second level assessment);
>
> d. analyze data in terms of scientific theories, concepts, and principles consistent with expected level of knowledge;
>
> e. establish a nursing diagnosis reflecting the identified client response and stimuli;
>
> f. establish short- and long-term client-centered goals;
>
> g. implement nursing interventions according to priority of the client needs;
>
> h. perform nursing interventions within a reasonable length of time;
>
> i. provide a safe environment by performing safely any nursing skills required in the care of the client;
>
> j. describe the client responses that would demonstrate complete, partial, or incomplete accomplishment of goal criteria;

k. replan in response to the evaluation of the nursing interventions.

The nursing process objectives for the final clinical experience of the program were delineated in terms of the six-step nursing process proposed in the Roy Adaptation Model.

In describing the manner in which the Roy Model influenced clinical practice in their particular area of responsibility, five faculty members made the following statements:

> In first year, at this point, we focus on first level assessment and judging whether it is adaptive or ineffective.
>
> One week the students learned role function so we asked them to assess that. The next week they had learned self concept, so we asked them to assess that. In the end, we had them do all three [psychosocial modes]. Unfortunately, when you get into those kind of modes, the students are very limited because they are only in the clinical area for one day. It's a lot to pick up in one day especially at this point when they're all so hung up on the physical needs.
>
> We ask the students to assess clients' biopsychosocial needs. We start with the physiological mode since that is what is covered in the classroom. The data is assessed under the same need states. In the self-concept mode, we look at physical self and personal self--the responses, stimuli, nursing diagnosis--the whole nursing process.
>
> I find the clinical area a bit more challenging because the students tend to focus in on the physiological mode. In first semester in first year we tend to focus more on the first five need states and we don't pay much attention to the psychosocial in its entirety as it is in the nursing model. But we will look after, for instance, the person's response to hospitalization and to the illness. We look at the family, if they're coming in--how the patient is responding to the family and vice versa. In second semester, we try to build on the psychosocial need states. They have two days a week [in the clinical area] and it's a much more consistent approach. When they're [in the clinical area] one day a week [in first semester], if they can do a good physiological assessment for that day, that's about all I can get them to do.
>
> In post conferences, I have the students apply the model to give me their assessments, their diagnosis, and their interventions.

It was evident from the nursing clinical practice objectives and from the statements made by the instructors that the six-step nursing process as described in the Roy Model had an important influence on clinical activities. There was also evidence of use of the physiological need states and the psychosocial modes although two individuals expressed questions about the extent to which the psychosocial modes are considered in typical clinical activities. Thus, concepts related to Roy's view of the person and the six-step description of nursing activities were evident in clinical activities as described by faculty members and in clinical nursing practice objectives.

Assignments

The conceptual model in a nursing program should also be reflected in the assignments required of students. As Peterson (1977:32) suggested, student assignments such as work sheets, projects, and case studies should provide such evidence.

One assignment required in Semester I of the Keyano College nursing program was described by a faculty member:

> One major project is the "Health Project" where the students go into the community, take on an individual who is fairly healthy--a person that they do not necessarily know very well--and have to assess the person using all the modes and needs states and all the assessment tools and all the data they've been given so far.

Objectives for this particular assignment were also available and are quoted.

> With the cooperation of a healthy individual in the community, the student will:

a. assess responses (first level assessment) by utilizing assessment tools provided in class and all other appropriate resources (i.e. textbooks, handouts, etc.);

b. identify the responses as adaptive (A) or ineffective (I) by putting the appropriate letter beside each response;

c. classify the responses under each need state in the appropriate mode;

d. utilize communication and observation skills learned to date;

e. demonstrate proficiency in writing nursing papers by utilizing the APA Guide.

It was evident that this assignment incorporated the Roy Model view of the person as related to physiological needs and the psychosocial modes and the first two assessment steps of the nursing process.

A nursing care plan related to a psychosocial assessment of the patient was also available for review. It was evident in this detailed assessment of the three psychosocial modes that concepts inherent in Roy's description of each of the modes were being applied. Again, the six-step nursing process formed the basis for the reporting of this assignment.

Assignments throughout the second year of the program often took the form of case studies with a focus on selected portions of the nursing process or the physiological needs and psychosocial modes. The concepts that were particularly evident were the view of the person, common stimuli, and the nursing process. As was mentioned previously, in at least one area (mental health nursing), application of the nursing process, particularly first and second level assessment, had presented a problem and it was deemed necessary to deal with the three psychosocial modes as an entity rather that segregating them for individual consideration. It appeared that assignment requirements in this particular area tended to depart from the prescribed Roy format.

The majority of assignments required of the students in the Keyano College nursing program were structured around the Roy Model. Particular emphasis was placed on the needs and modes associated with the person, the common stimuli, and the nursing process.

Examinations

The researcher reviewed sample examinations from each level of the nursing program during the visit to the Keyano College nursing program. Examinations were assessed for the manner in which items referred to specific terminology associated with the Roy Model.

The majority of items in the first year examinations directly reflected concepts inherent in the Roy Model and no items were identified that could not be accommodated within the framework of the model. For example, the Nursing 110 examination focused on knowledge and application related to concepts inherent in the model since the theory pertaining to the model was being taught at this level. In the second year examinations, terminology associated with the model was not as pervasive and some faculty members commented that an attempt is made in the second year to use terminology more applicable to nursing models in general. One person stated that, after first year, there is a conscientious effort to avoid Roy terminology with the objective of preparing students for the "real world" and for the Canadian Nurses Association Testing Service examinations.

As was mentioned briefly in earlier discussion, Keyano College has been and continues to be involved in a Computer Managed Learning joint project with the College of New Caledonia nursing program--another diploma nursing program based on the Roy Adaptation Model. The project, which was shared with the College of New Caledonia after its initial design at Keyano College, involved the development of test banks based on the Roy Model. Design of the data banks was based on Roy's nursing process: modules were categorized according to the needs and modes and objectives used to organize each module were based on the six steps of the nursing process. As one faculty member described,

> All modules and objectives can be interconnected so that the student can be tested on items very specific to a problem or on a very broad spectrum.

This person proceeded to describe the project:

> There is a common thread throughout the curriculum that follows all the nursing courses by using the nursing process. We're developing test banks so that we can do all our exams by computer. We can do self-learning modules; students can do self study; we can do mock R.N.s--any kind of self learning/mastery that you would want as well as something that's not self learning.
>
> The important thing is the framework of how it's set up because if it's not set up the same as our curriculum--if it doesn't follow the model that we're using--then it's impossible to evaluate our own curriculum through the use of the computer which is one of the basic reasons for doing it this way. We will always be able to evaluate where we're at in our program.
>
> You can go across all the nursing courses for first and second year. If you want to test a student on only nursing diagnosis, you can go in and pull out questions from the same objective all the way across two banks and test your student on only nursing diagnosis or only first level assessment. If we feel there is a deficit in, for example, second level assessment, in the way we're teaching it, we can literally go in and look at second level assessment.

At the time of the site visit, it was anticipated that material related to this innovative joint project would be shared at an upcoming conference in Australia. Further comments are made regarding this type of undertaking in the discussion of faculty use of the model and the level of use labelled "integration."

It was evident throughout the review of examinations that concepts inherent in the Roy Model influenced the structure and content of examination items. All of the major concepts of the model were tested in the first two semesters of the course since it was at that point that basic theory was presented. Later in the program, concepts became more associated with nursing theories in general but the influence of the needs and modes and the nursing process was evident. The same concepts were inherent in the previously described computer managed learning project.

Course Bibliographies

As has been identified earlier in this dissertation, course bibliographies may provide an indication of the operationalization of a nursing model in a curriculum. Course outlines and required text lists were made available to the researcher prior to the site visit. These were reviewed for evidence of material directly related to the Roy Model.

The nursing courses were of primary interest in this particular assessment. Roy (1984) served as a recommended text for both Nursing 110 and 120. Three other references related to adaptation nursing were identified in the course bibliographies: Rambo (1984); Randell, Tedrow, and Van Landingham (1982); and Roy (1976). The remainder of the bibliographical citations appeared to be compatible with concepts associated with the Roy Model.

Nursing courses in the second year of the program provided references to supplement the concepts inherent in the Roy Model but explicit reference to works related to the model was not prevalent. In this respect, one faculty member commented,

> Certain concepts [in the model] are hard to deal with and have to be expanded upon. They are not dealt with completely in Roy. You need other sources to complement the book.

However, Roy (1984) continued to be a recommended text for Nursing 215, the medical/surgical/psychiatric nursing theory course.

Thus, the primary reference in the program relative to the theoretical basis for nursing was Roy (1984). Supplemental references were used to augment the material presented relative to the needs and modes as they were addressed throughout the program. A few references related directly to the Roy Adaptation Model were also noted.

Student Evaluations

Student evaluation in the Keyano College nursing program was based on the three major process threads: the nursing process, leadership and management, and professionalism. Of particular interest in this assessment were the objectives related to the nursing process. These objectives were quoted earlier in this chapter and the influence of the Roy Adaptation Model in their development was noted.

Evaluation in courses was based on weighted marks of assignments, seminars, and examinations. In that examinations were constructed to align with course objectives which, in turn, were based on concepts inherent in the Roy Model (particularly needs/modes and the nursing process), evaluation of performance in courses was assessed as being based on the nursing model.

Evaluation of clinical performance was documented using a "Performance Appraisal Form" in both Years I and II. The criteria related to the nursing process and concepts inherent in the Roy Model were evident. The clinical objectives cited on the "Performance Appraisal Form" used in the Keyano College nursing program were quoted in previous discussion of clinical activities.

The "Performance Appraisal Form" for Year II took a slightly different form from that used in Year I in that the nursing process criteria for evaluation were divided into the common four-step nursing process (assessment, planning, implementation, evaluation). The six-step nursing process described in the Roy Adaptation Model was evident, however, in the behavioural objectives related to each of the steps.

One faculty member, in commenting on student evaluation, made the following statement:

> We always ask the directors of nursing in the clinical area, "How's the care?" which is, for us, a measuring tool of the students' knowledge and how they are actually applying the nursing process using the Roy Model.

It was determined that the nursing process formed the basis for evaluation of student performance both clinically and in the classroom. Implicit in the six-step nursing process as described in the model is Roy's view of the person and this was also considered to have an important direct influence on student evaluation in the classroom, and an indirect influence in the clinical area.

Faculty Evaluations

Information about faculty evaluation was obtained primarily during the interviews. The sources of evaluative information typically considered were supervisor, peer, and student.

The comment was made that yearly performance appraisals of instructors were tied into the Keyano College evaluation system and, as a result, tended to focus on general instructional concerns. One faculty member commented that a faculty member's use of the Roy Model would not typically be addressed in the evaluation unless a problem had been identified.

Evaluative input from peers appeared to be primarily informal in nature. Several faculty members commented that they would frequently seek advice from other instructors regarding concerns related to the implementation of the model and that informal feedback would be forthcoming in casual discussion or in faculty meetings. No formal peer evaluation had been undertaken.

Student evaluation of instructor performance was undertaken on a formal basis. It was noted that the students evaluate the courses at the end of each semester. A clinical evaluation of the instructor was also completed by each student at the conclusion of a posting. For this particular evaluation, application of the nursing process and the Roy Model were both criteria to be considered by the students as they prepared their evaluation of instructor performance. It was also mentioned by one faculty member that students regularly provide informal feedback throughout the course of the semester. One faculty member pointed out that, for first year students, in particular, it is difficult for them to evaluate the instructor's use of the model when the concepts are so new.

It was determined that evaluation of the instructor's application of the Roy Adaptation Model was addressed explicitly in student evaluation of each faculty member's clinical performance and implicitly in supervisor and peer evaluation. It was generally felt by faculty members that, aside from their clinical evaluation by students, their use of the Roy Model was not a topic of evaluation unless a particular problem had been identified.

Faculty

The Levels of Use focused interview (Loucks et al., 1976:21) was used to assess the extent to which faculty at the Keyano College nursing program had implemented the nursing model in their teaching situation. At Keyano College, it was possible to interview all (nine) faculty members with the exception of one person who was on vacation at the time of the site visit. Each interview was rated according to the procedure described by Loucks et al. (1976:41). As illustrated in Table 7.1, there was a wide spread in the manner in which faculty members were implementing the Roy Model in the Keyano College nursing program. Three faculty members demonstrated routine use; two, mechanical use; and one person was rated in each of the non-use, limited use, refinement, and integration categories. The one factor that appeared to have an

Table 7.1

Levels of Use Ratings for Faculty Members

(Keyano College)

Levels of Use	Number of Faculty	Percent
Non-use	1	11.1
Orientation	-	-
Preparation	-	-
Mechanical	2	22.2
Limited	1	11.1
Routine	3	33.3
Refinement	1	11.1
Integration	1	11.1
Renewal	-	-
Total	9	99.9

influence on the manner in which the model was being implemented by a particular instructor was the length of time the person had been associated with the nursing program. For example, the person who was rated as a non-user was a substitute instructor who was relieving in the clinical area for a person who was ill; persons who had been associated with the early development of the program tended to demonstrate routine use or refinement. Of interest was one faculty member rated at the "integration" level of use. This person, although not heavily involved with implementation of the model in the classroom or clinical areas, was immersed in the joint Computer Managed Learning project based on the Roy Model. She demonstrated what Loucks et al. (1975:8) described as the

> State in which the user is combining own efforts to use the innovation with related activities of colleagues to achieve a collective impact on clients within their common sphere of influence.

A category profile was developed for each person, using seven behaviors associated with the use of the innovation. These category profiles are illustrated in Figure 7.2.

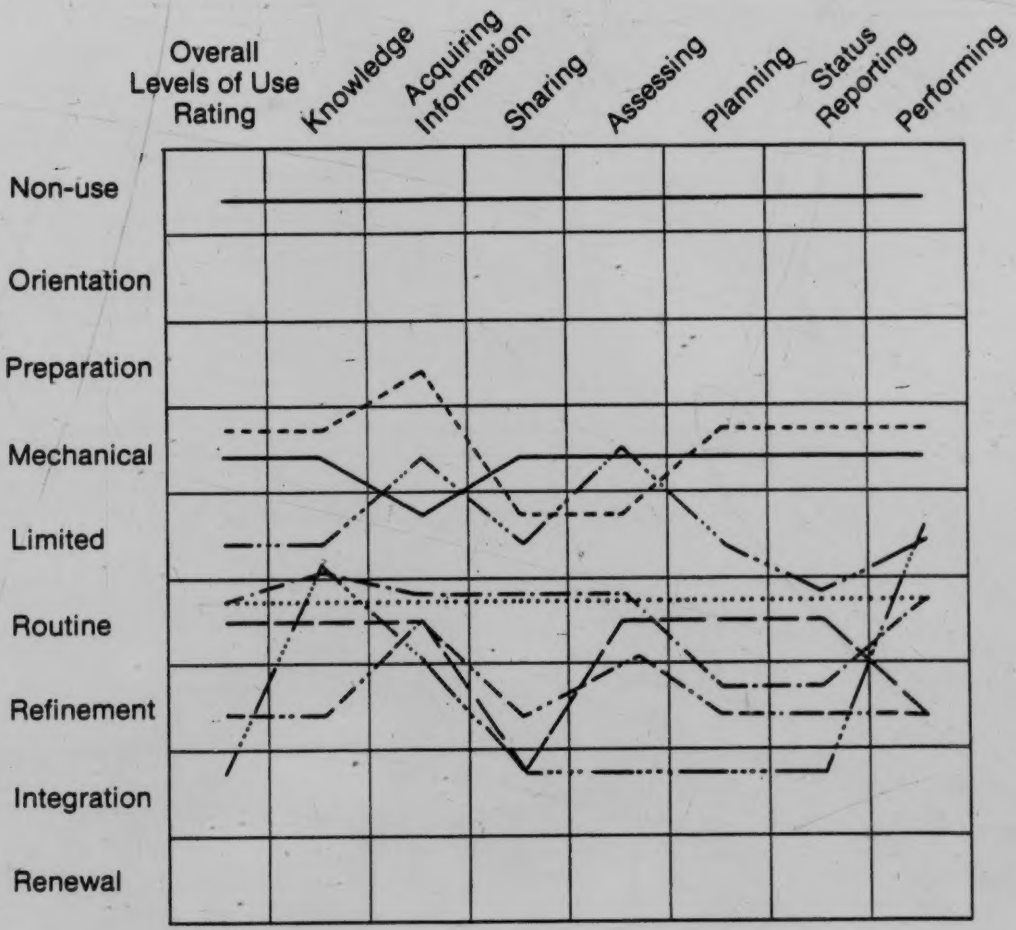
Each interviewee was asked to identify the strengths and weakness in using the model in their teaching situation, both in the classroom and clinically. Among the strengths, faculty members emphasized the organizational framework provided by the model for the nursing process in general and assessment in particular. They also empahsized the biopsychosocial view of the person. According to these people, the model demonstrated the following features:

> It's step by step--you start with your basics and then you work up into your second level assessment and then your nursing diagnosis seems to flow from your first and second level.

Figure 7.2

Category Profiles of Interviewees

(Keyano College)



> It teaches the students how to assess properly; what to look for in great detail and to look at the person as a whole.
>
> This program truly is biopsychosocial. The whole being is considered no matter what area. It is followed through in the clinical area, as well. It definitely is a holistic approach.
>
> I like the model because it makes sense to me.
>
> It has continuity. Our lessons are based on going through the definitions, the cognator and regulator subsystems, and then starting in to the nursing process. We all teach that way so the students have the same type of approach from every instructor.

Weaknesses or concerns associated with curricular use of the Roy Model were categorized into five areas: those associated with the psychosocial modes, the assessment of stimuli, priority setting, practice-related concerns, and terminology.

Psychosocial modes. A number of faculty members identified problems with the application of the psychosocial modes throughout the program. The following comments illustrate these concerns:

> My own personal belief in the psychosocial modes is that self-concept, role function, and interdependence, although they're three separate areas, don't exist at all separately. I see them very interrelated so that, to pick a mode from the psychosocial modes that has an ineffective response--I'd be hard pressed to identify something exclusively one mode. Physiologically, you can isolate the concepts. I would be hard pressed to think that someone just had a deficit in role function and nothing else.
>
> I'm not too sure that some of the psychosocial modes just don't blend in together at one point. I'm not too worried about that. I don't think one ends and the other one begins. At the beginning we were concerned--one behavior had to fit into one of the psychosocial modes. Then we started questioning that rigidity in our thinking. Human beings are not like that so we can't categorize it as such.
>
> I find the psychosocial components hard at times because trying to split things up between self-concept, role function, and interdependence--I feel there's a lot of overlap.

> I'm comfortable using Roy's model in the physiological mode. I would not be comfortable using the model in the psychosocial mode--not exclusively. I can use what I need out of it when I'm dealing with the students for the psychosocial component but I'm not sure how accurate I would be in a real crunch.

Three people had concerns that pertained to one of the psychosocial modes, in particular:

> I find that students grasp role function more easily than self concept or interdependence which they tend to confuse. Depending on what kind of role they assess, there's a lot of interdependence involved, as well.
>
> Some of the students may feel a little bit uncomfortable with questions about self concept where they're not sure now to approach the client. We have to develop the questions and make them part of ourselves. I know that Roy suggests questions but the application part of it is to sit down and discuss with the students the best way of internalizing this assessment and making it something you're not self conscious about. What are the cues that you get from your clients that say that they're ready to talk about themselves?
>
> I had a little bit of difficulty with role function--the different partitions and working some good questions into there that the client could understand.

Assessment of stimuli. The second level of assessment, the assessment of stimuli, presented a concern for three individuals, as evident in the following comments:

> Students have difficulties initially grasping second level stimuli. I think it's the vocabulary [associated with stimuli]. They have to memorize and use it. Towards the end of the first semester, they can do very well on physiological assessment. Because the psychosocial modes are towards the end of the semester and they only have one or two days to apply that [clinically], they do have some problems.
>
> Identifying stimuli as focal, contextual, and residual presents a concern. Focal is no problem; it's the other two. I find that seems to bother the students.
>
> A lot of students identify problems with the psycho-normal assessment. Second level assessment presents a problem.

Priority setting. Two faculty members identified problems that could ultimately be categorized as concerns related to priority setting in the assessment of a patient. One person questioned as follows:

> When you look at the four modes, how can you possibly, in the time you have, write a care plan on all those modes--the need states and everything--and do justice to it? It can become very repetitious. The students have difficulty picking out what is pertinent and what is not.

Another person identified this concern:

> One of the major questions in the clinical area is the expectations and the levelling of the nursing model and I'm not totally clear on that. Some of the instructors seem to think that, if you're here for a day, you should be able to assess in depth all four modes. For myself, as a nurse, going in to care for a client, I'm not sure. It depends on the client's situation. Obviously, there are times when role function would certainly be in the background and your physiological needs would come to the forefront. That's one thing we have to teach the students. These need states and these modes certainly depend on the person's health status.

Practice-related concerns. Concerns were expressed relative to the application of the model in the practice setting. One person noted,

> It's very difficult here because the hospital doesn't use the model and the nurses find it difficult because the jargon is a little bit different. We do a lot of talking with the nurses. In the last three years, I've had contact with every nurse--just informally talking about the adaptation model and how we use it. Some of them are picking it up.

Another person described some of the problems this situation presents for students in the clinical areas.

> They [the clinical staff] don't seem to have a framework for the nursing process at the hospital. The students seem to do well with Roy but have to make a lot of changes even to use a care plan. The care plans are nowhere similar to what they're taught in classes. I noticed the nurses on the one floor we were on began to chart like the students did after they were there for a few weeks.

As one faculty member observed, "The biggest question for me has been the clinical side of it--how to make it work out here; how not to leave it in the classroom." This person proceeded to suggest, "One of the things that is useful for us as nurses is to go into the hospital and use it [the model] for ourselves.

Terminology. One faculty member identified a problem associated with the terminology inherent in the model: "At times, for myself, getting used to the terminology has been difficult--what fits where and how to go about it." Terminology was mentioned as a concern related to understanding the concepts inherent in the model by clinical agency staff and as related to difficulties being experienced by students in the assessment of stimuli, particularly that related to the psychosocial modes.

In the Keyano College nursing program, there was great variability in the Levels of Use that faculty members demonstrated as they described their application of the Roy Model in teaching situations. The majority of individuals gave evidence that they were using the model at least in a mechanical or limited manner and by virture of the structure of the curriculum and related materials. There were both concerns and advantages associated with the manner in which the model had been incorporated into the Keyano College nursing program and with the Roy Adaptation Model itself.

Students

The perceptions of students regarding the implementation of the Roy Model in the Keyano setting were assessed by means of the questionnaire described in Chapter 3 and contained in Appendix F. Of particular interest were students' descriptions of the model, how it has shaped their program, and how they personally use it.

During the site visit to the nursing program, the questionnaire was distributed by faculty members to ten students from each of the first and second years of the programs by the instructors. Six questionnaires were collected: four from first year students and two from second year students. Four questionnaires were forwarded to the researcher at a later date; the year of the program for these respondents was not known. The faculty members did not request that the questionnaires be completed on site. Thus the number of students that voluntarily returned the questionnaire was low. The ten questionnaires represented responses from approximately 24 percent of the student body. In the following section, each item of the questionnaire is addressed and, where relevant, responses provided by students in each year of the program are segregated.

Identification of the nursing model. The first item on the questionnaire addressed the students' awareness of the program's nursing conceptual model: "Are you aware of a specific model for nursing that forms the basis for your nursing program? If so, what is it?" Without exception, students identified the Roy Adaptation Model in answer to this item.

Identification of the elements. Identification of the elements of the nursing model was the topic of the second item: "What would you identify as essential elements or key concepts of the nursing model underlying your nursing program?" The most common response was the idea of the holistic (biopsychosocial) view of the patient with consideration of the physiological and psychosocial modes. Two people listed steps of the nursing process while another stated that the concept of adaptation was the essential element of the model. There was no notable difference in responses offered by second year students as opposed to those provided by first year students.

What is nursing? Students were asked to describe what they were first taught about "what nursing is." The responses provided by first year students tended to be broad topic areas rather than focused activities. One person identified "different beliefs about nursing" and another "nursing models". Others suggested "historical development," "expectations of students," and "communication." Question as to the clarity of the item arose from such responses. Five students did provide responses closer to that which was expected, however, in their suggestion that nursing is "the assessment of needs" and "the promotion of adaptation."

The respondents from second year stated that nursing was "a process" and "the holistic care of a person" and with such answers, demonstrated a more accurate understanding of the intent of the item and perhaps greater ability to define the concept expressly than did first year students. One person stated, "I was never taught; I learned what nursing is through the experience of being a patient."

Conduct of the program. Item four represented an attempt to identify the student~~s~~' perceptions of how the nursing model actually affected the conduct of their nursing program. The responses are quoted and designated as to the year of the student in the program.

> It lets us look at the client as a person who has feelings and who is affected by the hospital stay. [First year student]
>
> This nursing model gives a base for understanding of what a nurse is or should be. [First year student]
>
> The program revolves totally around Sister Roy. [First year student]
>
> Gives it an organized approach. [First year student]
>
> The whole program is modelled around this nursing model. The whole focus of our learning is modelled around Sister Callista's modes of care. [Second year student]
>
> We were taught everything according to Roy's model. [Second year student]
>
> [We] learn all of Roy's modes of behavior. [Year unknowm]
>
> All three aspects of the person are considered when learning about nursing care. [Year unknown]
>
> The method we use to approach a client is different from the hospital's way. We appraoch a person as a human with needs in areas, where others view the client as a "condition" that needs treating. [Year unknown]
>
> Totally! Our whole program is centered around the Roy model. [Year unknown]

It was evident in the above comments that the students recognized that the Roy Model provided the basis for the structure of the whole program.

Care of patients. Students' perceptions of the effect of the nursing model on their care of patients was the topic of the last item: "What influence does the nursing model have on what you do when you are caring for patients?" Responses are reported according to the year of the student in the program, where it was known.

First year students who completed the questionnaire made the following statements:

> I see them as persons who have feelings and that are not well (have had surgery, etc.) and needs my help to be able to return to normal functioning.
>
> The model is always in the back of my mind when I care for a patient; it is used as a tool at all times.
>
> I have to think of assessing and what to do for the patient.
>
> The utmost influence. Without it I could not function. It ensures I don't leave out any aspects of client care needed.

Second year students made these remarks:

> I tend to look at the overall client and how each area of care influences the others instead of looking at only isolated problems of the client.
>
> It lets me make an adequate and efficient assessment; I then plan my care for my patient.

Other responses included:

> Helps you to view whole person--not just physical and ignore [psychosocial].
>
> Considers not only the physical needs of the patient but the psychosocial needs, as well.
>
> I tend to see a person and assess how they are coping with a situation first and then focus on the main physical problem and see how it can be dealt with and how it is affecting how the person is coping.

Look at physical as well as psychosocial aspect of the person.
Systems approach to assessment.

The responses provided by these students indicated an encompassing perception of the manner in which the nursing model influences patient care rather that the specific influence of the particular concepts inherent in the model. It must be recognized that these responses were provided by a very limited number of students and that a different perspective may have been evident had more student responses been received. There was general evidence that students recognized the influence of the Roy Adaptation Model in their nursing program.

Summarizing Remarks

Three topics have been selected for summarizing discussion relative to the manner in which the Roy Adaptation Model has been implememted in the Keyano College nursing program. These pertain to: (1) the manner in which the curriculum has been designed and set forth by documentation, (2) the evidence of use of the model in terms of faculty and student performance as perceived during interviews with faculty and through the questionnaire completed by selected students, and (3) the concerns raised by faculty regarding the use of the model in the program.

Evidence of the application of the Roy Adaptation Model was readily evident in the curricular materials reviewed for purposes of this research. It was explicit in the conceptual framework and use of the conceptual framework was evident in the promotional materials, the philosophy, terminal objectives, the curriculum structure, course content including the introductory nursing course, patient assessment tools and procedures, classroom activities, clinical activities, assignments, examinations, course bibliographies, student evaluations, and faculty evaluations provided by students. The elements that appeared to have a primary focus were concepts inherent in Roy's view of the person (the needs and modes) and the nursing process. These recurred as process and content threads throughout the curriculum. The influence of the Roy Model was not evident in the formal faculty evalution procedure.

Inherent in the nursing conceptual component of the framework for curriculum development were a number of adaptations to the model for purposes of the Keyano College Program. These pertained to (1) the selective emphasis on the spiritual nature of the person, (2) the specification of the eight common stimuli, and (3) the identification of the need states associated with the physiological mode. The influence of the second and third adaptations was evident throughout the curricular documentation. However, the impact of the selective emphasis of the spiritual nature of the person on program activities was unclear.

The interviews with faculty members and the questionnaire completed by selected students from the two years of the program provided information regarding personal application of the Roy Model. The faculty interviews were rated for Level of Use of the Roy Model and were rich in description of the manner in which the model influenced performance in the teaching situation. Student perceptions of the effect of the model on their nursing program were evident in the responses to the questionnaire.

According to the Levels of Use ratings and descriptive comments provided by faculty members, there was great variability in the Levels of Use that faculty members demonstrated as they described their application of the model in teaching situations. The majority of individuals gave evidence that the model did affect the manner in which they interacted with students and, for some, it had a distinct influence on teaching both in the clinical and classroom settings.

All of the students completing the questionnaire could identify the Roy Adaptation Model as the nursing conceptual basis for their program. The clarity with which students were able to describe the concepts inherent in the model and the manner in which it affected the program structure and their practice was variable. There was evidence, however, that the model and its associated concepts did have an influence on the thought patterns of students as they cared for their patients.

There was evidence that faculty members appreciated the framework provided by the Roy Model for the nursing process and, in particular, assessment activities. The biopsychosocial view of the person was also viewed as a distinct asset. A number of concerns were also raised. These related to: (1) the psychosocial modes, (2) the assessment and classification of stimuli, (3) priority setting, (4) use of the model in the practice setting, and (5) terminology.

In the next and final chapter of the dissertation, interpretive comments related to the three site visits are made. In addition to providing a summary of the research, the chapter provides an exploration of the implications and conclusions and thus serves to conclude the dissertation.

CHAPTER 8

Interpretation

In consideration of the naturalistic orientation of this research, interpretation must be, of necessity, in terms of the particulars of the cases. Lincoln and Guba (1985:42) explained the reasons surrounding this position:

> Because realities are multiple and different; because the findings are to some extent dependent upon the particular interaction between investigator and respondents that may not be duplicated elsewhere; because the extent to which the findings may be applicable elsewhere depends upon the empirical similarity of sending and receiving contexts; because the particular "mix" of mutually shaping influences may vary markedly from setting to setting; and because the value systems, especially contextual values, may be sharply at variance from site to site.

Several topics have been selected to organize the findings reported in the previous three chapters. Initially, a summary of the research is provided. Out of the summary arise a number of topics that have been deemed particularly important for further discussion: (1) the manner in which the decision was made to adopt the Roy Adaptation Model as the nursing conceptual basis, (2) the adaptations to the model made by each program during implementation, (3) the concerns associated with curricular implementation of the model, and (4) the use of the Levels of Use framework to determine faculty implementation of the model.

Matters that require further consideration and investigation in light of the findings of the study are raised as implications. The concluding remarks address the purpose of the research, the methods used, and the importance of the research.

Summary of the Research

The purpose of this research was to describe and analyze the extent to which a particular educational innovation--a nursing model as the conceptual basis for curriculum development--was applied in three nursing programs. Delimitations of this purpose related to the particular nursing model under investigation (the Roy Adaptation Model for Nursing), the sixteen curricular dimensions selected to provide an indication of the extent of implementation, and the framework chosen to describe the manner in which faculty members were using the model in their teaching situations (the Levels of Use dimension of the Concerns-Based Adoption Model).

Two-day site visits to three Canadian schools of nursing were conducted. The programs involved in the research were the Algonquin College Nursing Program in Nepean, Ontario; the Health Sciences Centre School of Nursing in Winnipeg, Manitoba; and the Keyano College Nursing Program in Fort McMurray, Alberta. Information regarding the application of the Roy Model relative to the sixteen curricular dimensions was collected by means of document analysis, interview of selected faculty members, a questionnaire completed by selected students, and observation. Reporting of the information consisted of description and analysis of the extent to which concepts inherent in the Roy Model were evident in each of the dimensions. An overview of the findings in this regard is provided in Table 8.1.

Table 8.1

Overview of the Findings Associated with the Sixteen Curricular Dimensions

	Curricular Dimensions	Algonquin College	Health Sciences Centre	Keyano College
1.	Promotional materials	-	-	Roy Adaptation Model, Person
2.	Philosophy	-	Person, Environment, Health, Goal of Nursing	Person - biopsychosocial needs
3.	Terminal objectives	Person, Environment, Goal of Nursing	Person - biopsychosocial, adaptive	Person - biopsychosocial, 1st. & 2nd. assessment steps
4.	Curricular structure	Person, Nursing Process	Person - 4 modes, needs, adaptation problems	Person - 4 modes, needs, adaptation problems
5.	Course content	Person - 4 modes, Nursing Process - steps 1 and 2, adaptation problems	Person - 4 modes, adaptation problems Nursing Process	Person - biopsychosocial nature Nursing Process - 6 steps
6.	Introductory nursing course	Person, Environment, Health, Goal of Nursing, Nursing Process	Person, Environment, Health, Goal of Nursing, Nursing Process	Person, Environment, Health, Nursing Activities
7.	Patient assessment tools/ procedures	Person - 4 modes, needs, adaptation problems	Person - need areas, common stimuli	Person - 5 physiological needs, Nursing process - 6 steps

Table 8.1 (continued)

	Curricular Dimensions	Algonquin College	Health Sciences Centre	Keyano College
8.	Classroom activities	Person - 4 modes, adaptation problems, Nursing Process - assessment	Person - need areas, adaptation problems, Nursing Process	Person - 5 physiological needs, Nursing Process - 6 steps
9.	Clinical activities	Nursing Process	Person - needs, Nursing Process	Person - 5 physiological needs, Nursing Process - 6 steps
10.	Assignments	Person, Nursing Process - steps 1 & 2	Person - need areas/modes, Nursing Process	Person - needs/modes, common stimuli, Nursing Process - 6 steps
11.	Examinations	Person, Nursing Process	Person - need areas/modes, Nursing Process	Person - needs/modes, Nursing Process - 6 steps
12.	Course bibliographies	Primarily Andrews & Roy (1986)	Limited	Primarily Roy (1984)
13.	Student evaluations	Person, Nursing Process	Nursing Process	Nursing Process - 6 steps
14.	Faculty evaluations	Not generally	Yes, but not a focus	Yes, but only if problems were identified.
15.	Faculty	Decreasing use as program progressed	Primarily Routine & Refined users	Wide spread in Levels of Use
16.	Students	Variability in understanding	Majority able to describe influence of model	Generally recognized influence of model

It was determined that the influence of the Roy Model was clearly evident in curricular documentation, particularly in the terminal objectives, curricular structure, course content, the introductory nursing course, patient assessment tools/procedures, classroom and clinical activities, assignments, examinations, and student evaluations. The "nursing process" demonstrated a pervasive influence in all programs although conceptual description of the steps varied (two programs combined the first three steps of the Roy six-step nursing process into one assessment step while one program maintained the six steps separately). There was varying use of concepts associated with the model in the promotional materials and philosophy statements and use of the model did not weigh heavily in faculty performance evaluation. The description of faculty implementation of the model in terms of the Levels of Use framework demonstrated distinctly different profiles in each program--a phenomenon to be addressed later in this chapter. Students were able to identify the model used in their program; their description of the manner in which the model affected the program and their practice varied in refinement.

The following interpretive discussion focuses on selected topics related to the findings and the methods employed in the study. Implications and conclusions serve to conclude the dissertation.

Discussion

A number of topics were identified as important for interpretive discussion. By exploring these aspects of the findings in light of selected literature, understanding of the observations may be enhanced.

Three topics that benefit by comparative analysis are (1) the factors associated with the decision to adopt the Roy Model as the nursing conceptual basis for the program, (2) the manner in which the model was conceptually adapted for implementation in each program, and (3) the concerns associated with curricular implementation of the model. Exploration of the Levels of Use framework used in this research was also deemed to be an important topic for discussion.

The Decision to Adopt the Model

Although information relating to the decision to adopt the innovation (the Roy Model) as the program's conceptual basis was somewhat peripheral in this research, interpretation of these observations in light of some recent theoretical literature provides interesting insight. Of particular interest were (1) isomorphic theory as it relates to educational change and (2) selected factors affecting change as described by McLaughlin and Marsh (1978).

Isomorphic theory.

The manner in which the decision to adopt the Roy Model came about in the various programs can be considered in terms of isomorphic theory. Institutional isomorphism was described by Weeres (1984:11) as a homogenization process that makes organizations operating in the same environments similar in structure, function, and policy. DiMaggio and Powell (1982:150) identified three mechanisms associated with institutional isomorphism: (1) coercive mechanisms produced isomorphism resulting from common legal, cultural, and hierarchically structured environments; (2) mimetic mechanisms were associated with isomorphism resulting from modelling after successful subsystems in the same field; while (3) normative mechanisms were related to professionalization of personnel sharing common norms and perceptions.

The premise used in this discussion is that the three diploma schools of nursing can be viewed in terms of institutional isomorphism by virtue of their use of the Roy Adaptation Model and can thus be analyzed in such terms. Although the combined influence of three mechanisms could probably be identified in any isomorphic situation, the influence of a primary mechanism can be identified in the analysis of the manner in which the decision to adopt the Roy Model was made in each of the programs involved in this research.

The primary mechanism that appeared to be operant in the Algonquin College decision to adopt the Roy Model was normative in nature in that a committee of faculty members from three associated nursing programs spearheaded the search for a framework that would align with the norms and perceptions of the personnel involved in the programs. The committee was concerned that the selected nursing model be compatible with the philosophy of faculty members and promote the development of a nursing focus in the curricular content, thereby providing a guide for nursing activities.

Although faculty involvement in the decision to adopt a nursing model was encouraged in the Health Sciences Centre nursing program, the ultimate decision to adopt the Roy Model was made by the director of the program. Two major factors were identified as influential in the decision to adopt the nursing model: (1) problems associated with accreditation reviews and (2) the advent of comprehensive nursing examinations based on a nursing model. As such, the primary isomorphic mechanism in this situation appeared to be coercive in nature.

The Fort McMurray situation was clearly an example of mimetic isormorphism. The program was modelled after an implementation of the Roy Adaptation Model at the Royal Alexandra Hospitals School of Nursing in Edmonton, Alberta, Canada. The influence of that particular program was acknowledged in the Keyano College curricular documentation.

A consideration stemming out of these observations was the extent to which factors associated with the adoption of an innovation influence its implementation. These factors are the topic of the following analysis.

Factors affecting change. Factors affecting the implementation of an innovation were explored in Chapter 2. Some of these factors can be directly related to the isomorphic mechanisms presented previously. For example, Leithwood (1981:34) suggested that relevance to existing practice (associated with normative mechanisms) was an important factor in the process of change. McLaughlin and Marsh (1978:80) identified the importance of participative decision making (a factor appearing to be absent in coercive and mimetic situations), as enhancing the development of a "sense of ownership" of the innovation. However, it must be recognized that participative decision making can be evident at levels other than the initial decision to adopt a particular nursing model--decisions relating to the sequencing, content, and delivery of courses, for example.

Another factor thought to influence the implementation of an innovation was staff turnover. For those instructors joining the program subsequent to the implementation of the model, its application in their individual teaching situations could be considered coercive since they were not involved in the initial decision. The effect that this would have on personal implementation of the model introduces the need for consideration of the implementation strategies that McLaughlin and Marsh (1978:76) have termed "staff-training activities" and "training-support activities." (These were discussed in Chapter 3.)

The data obtained during the three site visits provided little information relative to staff-training and training-support activities available for faculty members. It was recognized that the programs did have literature and/or teaching resources that served to acquaint new faculty members with the concepts inherent in the model but evidence of further training and support activities was not sought. The importance of these factors as associated with the status of an educational innovation is acknowledged. Should further research on this subject be undertaken, orientation and support activities for faculty, as an additional curricular dimension, would enhance description of the extent of implementation of the nursing model.

Date of implementation is another factor that could potentially influence the status of the innovation. The nursing program based on the Roy Model was implemented at Algonquin College in 1981, at the Health Sciences Centre in 1977, and at Keyano College in 1983. Yet the Health Sciences Centre, although the longest established Roy program was just in the final stages of achieving consistency in the application of the Roy Model in the nursing component of the program. The curriculum revision process had extended over a lengthy period in that institution.

Keyano College, however, as a new program, had the Roy Model in place upon initial desgin of the curriculum. In that case, a totally different set of circumstances facilitated the integration of the model into the nursing program.

These situations substantiate the variety of factors evident in the literature that potentially influence change initiatives and the implementation of an innovation.

Adaptations to the Model

Although the Roy Model clearly had been implemented as the nursing conceptual basis in each of the programs, adaptations to the model for program purposes were noted. In some situations, the adaptations constituted an elaboration of concepts inherent in the model while, in others, changes were evident. Two areas of the educational change literature related to this phenomenon: (1) the programmed versus the adaptive perspectives of change and (2) the Concerns-Based Adoption Model dimension of Innovation Configurations (Hall and Loucks, 1981). Before exploring these ideas, however, the adaptations to the Roy Model incorporated by each program are reviewed.

Program adaptations. As evident in Chapter 3, adaptive implementation of educational innovations has been a topic of debate in the change literature. Program-specific modifications of the concepts inherent in the Roy Adaptation Model were observed in each of the nursing programs.

Algonquin College. Alterations to the Roy Model that were evident in the Algonquin College program related to the description of the person; the nursing process, in particular, the assessment phase; and the identification of adaptation problems. In the description of "the person" contained in the program's conceptual framework, the spiritual aspect was selectively emphasized. In contrast, Roy (1976:11) described the person as a biopsychosocial being; the spiritual being was viewed as part of the psychological nature of the person.

In relation to "nursing activities," the first three steps of the nursing process were amalgamated into one phase and "interpretation" was added to observation, interviewing, and measurement as the skills used in the process. As an elaboration of the assessment process, a comprehensive list of "behavioral indices" was developed to assist students in the assessment of patients. The adaptation problems that had been selected for program purposes varied slightly from those presented in recent writings on the Roy Model (for example, Roy, 1984) although they were compatible with and tended to reflect those identified in earlier writings (Roy, 1976).

Health Sciences Centre. Modifications of the Roy Model incorporated at the Health Sciences Centre program related to the description of the person (the spiritual nature, needs, common stimuli, and the goals of adaptation) and to the nursing process (the steps involved, nursing diagnoses, and interventions). In this program, the spiritual nature of the person was associated with the interdependence mode, as described by Tedrow (1984:309). A list of ten common stimuli affecting the person's behavior was unique to the program and the needs identified for program purposes differed slightly from, but were compatible, with those described by Andrews and Roy (1986:42, 43). The individual's goals of adaptation also differed from those identified by Roy (1984:35) in that "reproduction" had been removed as a goal and was viewed as a need associated with the physiological mode.

Alterations in the model relative to the nursing process related to the amalgamation of the first three steps (assessment of behavior, assessment of stimuli, and nursing diagnosis) into one major assessment phase in the same modification evident in the Algonquin College program. The statement of nursing diagnosis assumed a unique three-part format while nursing interventions were categorized into five general activities.

Keyano College. The Roy Adaptation Model as incorporated in the Keyano College nursing program was modified in the description of the person; the spiritual nature of the person was selectively identified and eight unique common stimuli were enumerated. Although other adaptations were evident in specific sections of the program, the previously mentioned alterations constituted the only program-specific changes to the model that were evident in conceptual description.

Adaptation perspective. One topic that had a bearing on the findings associated with the three site visits was that of the "perspectives of change" that dominate the educational change literature. In particular, the issue rested with the question of programmed versus adaptive change, the features of which were explored in Chapter 3. (It must be recognized that the two perspectives represent ideal types and that the pure forms as described in Chapter 3 would rarely, if ever, be observed in practice.) Berman (1980:214) noted that a combination of the programmed and adaptive perspectives is probably the most realistic approach to a discussion of the extent to which an innovation should be adapted in a particular situation.

One major question arose from this issue. To what extent should programs, in their implementation of a nursing model use the model as it was developed or adapt it to meet the needs of their situation?

It is not the intent in this discussion to suggest that there is an answer to this question. Rather, some insight was provided by Sister Callista Roy (1986:3), developer of the model, when she was posed the question:

> I have always said, "Please use what is useful [from the model] and if it can help anybody give better care to patients or to better understand nursing, I'm glad." But it does not have to be purported as implementation of the model and should not then be judged. In my mind, [to be considered an implementation,] the basic elements of the model [must be] there and used throughout the teaching process--classroom and clinical.
>
> Now, what would I say that would absolutely exclude a school from an acceptable implementation? I would think that where the terminology may exist only on paper--that would probably be a key to me. If I saw that the faculty (1) did not really seem to understand what it was about and/or (2) did not have the ability to

> follow through with it. In other words, that the only way that they knew how to teach was the way they've always taught and that continued to be so, even with a little bit of terminology sprinkled in here and there.
>
> I think I'd probably have a lot of impressions of what I would find acceptable or not acceptable. I might be hard pressed to say what were cut-off criteria.

The complexity of the innovation and its pervasive influence throughout the nursing curriculum suggested that perhaps the contingency approach forwarded by Berman (1980:214) is the most realistic perspective to be assumed on the issue. It was suggested by Berman (1980:214) that, for change to be effective, the particular orientation--programmed or adaptive--should be matched to the features of a given change situation (the contingent approach).

The adoption of a nursing model represents a decision that has far reaching ramifications for all aspects of the curriculum. Yet situational parameters such as the scope of the change, the level of conflict, the structure of the setting, and the stability of the environment could feasibly differ from program to program and even within programs. For example, at the Health Sciences Centre, there appeared to be little conflict associated with the selection of the Roy Model as the nursing conceptual basis for the program. According to Berman (1980:213), the programmed orientation would likely be the appropriate approach in such a situation. In the Algonquin College situation, the structure of the setting could be termed loosely coupled and unstable: three distinct nursing programs had just been integrated into the Ontario college system by government order. This would indicate the need for an adaptive orientation to change and, according to the description of those who were involved in the change, adaptive orientation was assumed.

Innovation Configurations. It was possible to interpret the phenomenon of adaptations to the published conceptual model in light of a concept termed "Innovation Configurations" by its developers (Heck, Steigelbauer, Hall, and Loucks, 1981). Innovation Configurations, as conceptualized by Heck et al. (1981:1), represent "the operational patterns of the innovation that result from implementation by different individuals in different contexts." It was recognized that Heck et al. viewed Innovation Configurations as phenomena associated with the individual user of the innovation--in this case, the individual faculty member. It was also acknowledged that individuals do have operational patterns associated with their use of the innovation (the nursing model). For example, one person may be applying the six-step nursing process in the clinical discussion of patient care but ignoring Roy's description of the person as an individual with four modes of adapting. However, in the three schools of nursing that participated in this research, much of the implementation of model-specific concepts occurred in such curricular dimensions as course objectives, theory and clinical assignments, patient assessment tools, and examinations--aspects of the curriculum with which all faculty members worked. This may have restricted the development of personal configurations but support of this suggestion would require further research.

Perhaps a more relevant way in which to consider the concept of Innovation Configurations as it applied to this research related to the operational patterns of the model that resulted from implementation in the different nursing programs in their different contexts. In effect, Innovation Configurations were evident in Table 8.1 in that key concepts associated with the nursing model (the person, environment, health, and nursing) were identified and their appearance in the sixteen curricular dimensions was established. The program-specific adaptations to the model would also constitute a factor contributing to each configuration.

One aspect of the concept of Innovation Configurations as described by Heck et al. (1981:13) related to critical components--"those that must be used if the innovation is to be considered implemented." Sister Callista Roy (1986:1), when asked what factors she viewed as the essential parts or key elements of the model made the following statment:

> The philosophical assumptions of the model and the scientific assumptions are one factor. The second would be the elements of models--the concepts: person, environment, nursing, health, nursing activities. Another point is the integration within the person--looking at the adaptive modes and, within nursing, looking at the steps of the nursing process in relation to the other elements of the model.

If the model has been truly integrated into a program, Roy's view of the person with the related philosophical and scientific assumptions would be inherent in the manner in which nursing activities are performed.

Although philosophical and scientific assumptions were not specific considerations in this investigation, it was felt that evidence of the presence of (1) Roy's view of the person and (2) the nursing process provided evidence of true implementation of the model. One example pertains to the scientific assumptions associated with the general notion of coping mechanisms. Roy (1984:31) described "two basic internal processes of the person as a system: the regulator and cognator sybsystems." There was evidence in a remark made by one faculty member that these concepts were operationalized in the program being reviewed:

> Our lessons are based on going through the definitions, the cognator and regulator subsystems, and then starting in to the nursing process. We all teach that way so the students have the same type of approach from every instructor.

A philosophical assumption evident in all three programs was the biopsychosocial nature of the person. Statements made by students provided evidence that this philosophical assumption had been applied:

> [The model] forces me to see my patient as a biopsychosocial being who requires attention in all aspects--not only medical. [Algonquin College student]
>
> I see them [patients] as more than just physical beings. They also have psychological and social needs. [Health Sciences Centre student]
>
> [The model] helps you to view the whole person--not just physical and ignore psychosocial. [Keyano College student]

It was determined by the manner in which each of the programs had implemented the steps of the nursing process (even though the first three steps had been amalgamated in two of the programs) and the curricular evidence of the concepts inherent in Roy's description of the person, that each program could be considered as having implemented the model as the conceptual basis for their curriculums even though the Innovation Configurations were slightly different.

Concerns Associated with Curricular Implementation

Throughout the course of each interview, individuals were asked to identify the strengths and weaknesses in relation to their use of the

Roy Model in the classroom and clinical situations. Most, if not all, of the interviewees perceived the organizational framework provided by the model and the focus on the psychosocial nature of the person (in addition to the physiological nature) as distinct strengths.

Weaknesses and concerns were addressed in detail in the findings pertaining to each of the three schools. An overview of these concerns is presented in Table 8.2. It can be seen from that display that some of the concerns were evident in more than one of the programs while others were unique to the situation. Practice-related concerns in the three programs related to the difficulty encountered by nursing service personnel in understanding the terminology associated with the model. Program organization and related difficulties in levelling of student experiences were concerns identified in all three schools.

The complexity of the model and understanding of concepts were concerns in all three programs. Consistency in the interpretation and application of model-related concepts were identified as concerns in two schools. Specifically, the overlapping of concepts and resulting difficulties in categorization were a concern, as was priority setting as it related to levelling of objectives, consistency of faculty expectations, and difficulties in getting students to focus their patient assessments.

Levels of Use

Topics related to the Level of Use assessment of the faculty interviews were identified as important for interpretive discussion: (1) the additional designation of the "Limited Use" level, (2) the

Table 8.2

Overview of Concerns Associated with Curricular Use of the Roy Adaptation Model

Alqonquin College	Health Sciences Centre	Keyano College
Practice-related concerns		
-terminology not understood	-terminology	-terminology
Program organization		
-how to introduce the model -levelling	-difficulties with priority setting and getting students to focus	-expectations, levelling
Complexity of model		
-ability of students to grasp the model	-too complex for diploma program	-terminology difficult to grasp
Understanding of concepts		
-achieving mutual understanding	-overlap -labelling -difficulties in presentation of psychosocial modes -student problems with nursing diagnosis	-labelling of stimuli -interrelatedness of psychosocial modes
Consistency		
-in the interpretation of concepts -rigidity in application	-inconsistent interpretation by different instructors -inconsistent instructor expectations related to nursing diagnosis	
Commitment		
-reservations about utility of a nursing model		

implications of the category profiles, and (3) the ulility of the Levels of Use framework in this research.

Limited Use. The addition of the "Limited Use" category to the Levels of Use framework as described by Loucks et al. (1975:8) was made after two site visits (the pilot study and the visit to Algonquin College). During the rating of these interviews, several faculty members were identified who could not be accommodated on the Levels of Use framework as it was developed. These teachers were using the innovation by virtue of its presence in the curricular materials but there was evidence that the model was receiving limited use. There was indication that the user was uncommitted to the innovation, or was unconvinced that the innovation functioned as purported, or was not thoroughly familiar with the concepts inherent in the model. The operational definitions developed by Loucks et al. (1975:8, 9) did not accommodate this possibility. The decision was thus made to develop an additional level (Limited Use) to accurately describe what was being observed.

Gene Hall, the former director of the Research and Development Center for Teacher Education at the University of Texas at Austin (the person viewed as key in the development of the Concerns-Based Adoption Model), was contacted by letter regarding the situation; the adjustment to the model for purposes of this research was explained. He made the following comment:

> The phenomena [sic] that you have observed is commonly found in implementation efforts. That was the reason for developing the third diagnostic dimension of the CBAM [Concerns-Based Adoption Model], Innovation Configurations. In that dimension the way that

> the innovation is mutated is addressed. This is not another Level of Use, rather the different operational forms of an innovation represent different "configurations" that different users implement. . . .They can still be at a Mechanical Level of Use, it is just that they are using different configurations. I do not think that you are talking about a different Level of Use, they are still either LoU [Level of Use] I, II, III, or what ever. What is different is the configuration of what they are using and calling the innovation. (Hall, 1986)

It was Hall's suggestion that these individuals could indeed be accommodated on the Levels of Use framework as developed but in no way did the operational definitions for the various Levels of Use describe what was being observed. To classify these people as Mechanical Users, "a state in which the user focuses most effort on the short-term, day-to-day use of the innovation with little time for reflection" would have been erroneous. In fact, the Innovation Configuration that these people were implementing was that defined in the program's conceptual framework and in the curricular materials; the model simply did not permeate their practice in either the clinical situation or the classroom. The necessity to incorporate the additional level was considered to be justified in the interest of accurate and valid description.

An additional note at this point is in order. It was not the intent of these remarks that the designation of individuals at a particular Level of Use suggests that one level is "better" than another; for example to suggest that "Limited Use" of the innovation is a problem. In fact, a specific Level of Use may be desired in some stages of the program. This was the perception of the faculty members in the latter parts of the Algonquin College nursing program: there was a conscientious attempt on their part to de-emphasize the model in order to facilitate the transition of the student to the graduate role.

Category profile. As evident in previous discussion and in the application of the Levels of Use framework throughout this research, seven categories describing each Level of Use have been identified and operationalized. Categories, as described by Hall et al. (1975:53),

> represent the key functions that users carry out when they are using an innovation. At each level, the category descriptions represent the typical behaviors that users at that level are engaged in. However, an individual may not be on the same level in all seven categories. When such variations occur, they become further clues for interpretation by the adoption agent and the researcher.

Hall et al. (1975:54) proceeded to suggest that it should be possible to

> assess individuals within a school or college in terms of their Levels of Use and concerns about a particular innovation and to select appropriate intervention strategies and tactics to facilitate their growth in use of the innovation while minimizing the trauma of change.

The potential application of the Levels of Use framework as a diagnostic tool for faculty appraisal thus becomes evident. It should be possible to conduct Levels of Use interviews with faculty members in relation to their implementation of the nursing model and, in response to the overall Level of Use rating and the rating on the categories, determine the most appropriate inservice intervention for professional growth or to identify faculty members who could feasibly assist their peers with implementation problems. For example, perhaps a faculty member involved in the initial stages of the nursing program was rated as a "Limited User." Assuming that limited use is not desirable for an instructor who works with beginning students, it would be important to determine initially why this should be; the category ratings should assist with this diagnosis. If the problem was a lack of knowledge about the model, some inservice activities directed towards mastery of the concepts might be in order. On the other hand, if the problem was one of a lack of commitment to the model, as evident in the overall rating, it may be that the person should not be in a beginning instructor position since inability to commit oneself to teaching according to the model may undermine what the program is trying to accomplish. In other situations, limited use of the model may be deemed appropriate, especially if teaching responsibilities do not routinely require application of the concepts. This was the situation of the laboratory practice instructor at the Keyano College nursing program.

The category profiles of interviewees prompted some speculation associated with the spectrum of users of the innovation. Considering the Keyano College situation, there was one person identified at the "integration" Level of Use in relation to the joint Computer Managed Learning project. As advantageous as this type of activity was to the School, it would be problematic if all faculty members were involved in similar activities. Similarly, if all faculty were at the "Routine Use" level, there would be little innovative planning or evaluation being observed. It may be that some "Limited Users" in the final parts of the program do facilitate the transition of the student into the practice situation as a graduate. An abundance of faculty at the "Renewal" level may indicate that a major curriculum revision project is warranted.

The identification of variations in the Levels of Use of the model was not unexpected and such observations have been reported by others. For example, Provis (1973:196) observed,

> It is noteworthy that, when the fidelity of teaching associated with a new program has been the topic of careful investigation, results have almost always shown as much variation within the program as across different programs. . . .We are left with good reason to believe that great variation in teacher behavior exists within many experimental programs.

It was Provis' impression that these differences were a function of "pretreatment sets" characteristic of the teachers rather that the innovation itself.

Sister Callista Roy (1986:2) made the following comment in this respect:

> I've often said that you could line up your faculty from one end of the room to the other as the most committed, the most knowledgeable, all the way down to the least committed and knowledgeable, and there probably is a cut-off point at which it [the innovation, the model] won't work if you don't have so many people this far above the line. It's not that every person is totally committed and totally knowledgeable--I don't think that is possible. It's not possible in curriculum implementation and it's even more problematic when you get large health care institutions. But I think it behoves the people trying to institute the innovation to be aware of that and that there are critical points.

Provis (1973:196) continued in his discussion to provide a suggestion for remedial activity:

> When such variation exists, it is a major responsibility of the evaluation unit to document the discrepancy between staff behavior and program specifications. Decisions to be made by the program staff on the basis of this information may direct the retraining of teachers, the redesigning of program specifications, or the termination of the project.

Although extensive departures from the concepts inherent in the innovation were not observed during the three site visits that constituted this research, a situation might occur where the majority of faculty members would not be internalizing and applying the nursing conceptual basis for the program. Such a situation would require careful scrutiny in relation to the desirability of continuation of the project.

Utility of the framework. Three topics are addressed in the assessment of the Levels of Use framework in this research undertaking: the interview itself, the rating of the interview, and the overall impression of the framework.

The interview. As has been described previously, the Levels of Use interview was developed as a generic tool that could be adapted for use in assessment of any educational innovation. The basic format of the interview was structured but provision was made for probing to achieve clarity of explanation for the assignment of the Level of Use rating.

The Levels of Use interview was found to be a very useful tool with which to obtain information about the individual's self-described implementation of the innovation (the nursing model) in the teaching situation. A description of the perceived strengths and weakness of the innovation served to provide both an indication of the individual's knowledge of the model and to identify advantages and problems encountered in its use. Many of the questions pertaining to the identification of Level of Use generated additional information relative to the other curricular dimensions associated with the investigation. Miscellaneous questions at the conclusion of the structured items served to generate information about dimensions not previously addressed. The interview proved to be an efficient way to gather information related to faculty perceptions of the utility of the model and description of its personal use.

Rating. Rating of the interview for Level of Use proved to be somewhat difficult in terms of the complexity of the innovation under consideration. Unlike the more discrete educational innovations that have typically been the focus of Levels of Use investigations,[1] the adoption of a nursing model as the conceptual basis for an educational program represented a pervasive and complex innovation. The criteria for the designation of a non-user were vague due to presence of the innovation concepts in curricular documents that were used by all instructors. The rating decision, in a number of instances, rested on the researcher's perception of commitment to the model, and it was recognized that subjective interpretation such as this is always open to question. It was thus acknowledged that the overall and category Levels of Use ratings should be viewed tentatively. Although the framework did provide an efficient way to synthesize data and the Levels of Use ratings did provide an indication of the individual's description of their activities associated with the model, to suggest that each profile accurately described each person's performance would be erroneous.

General comments. One issue that has been dealt with previously also has a bearing on the aforementioned concern related to the use of the Levels of Use framework: the programmed versus adaptive perspectives of change. The Levels of Use framework was designed to be used in a programmed way. The protocol for use of the framework as established by the Research and Development Center for Teacher Education calls for exhaustive preparation of the researcher to the extent that persons using it are to be trained and certified by an associate of the Center. (This researcher underwent the training and was certified as a Levels of Use interviewer and rater in preparation for the research reported in this dissertation.)

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[1] Examples of educational innovations that have been the topic of Levels of Use investigations include: a new geography curriculum (Marsh, 1983); a provincial (K-6) science curriculum (Leary, 1983); basic competency regulations and staffing procedures (Larson, 1983).

As described previously, the operationalization of the various Levels of Use did not accommodate one phenomenon that was being observed--the Limited User, who, by virtue of the structure of the program, was "locked in" to certain aspects of the innovation. Although Hall (1986) suggested that what was being observed was a different Innovation Configuration, these individuals still needed to be accommodated on the Levels of Use framework. They were not "non-users" in either of the three non-use levels nor were they Mechanical or Routine Users, as operationalized by Hall et al. (1975:55, 56). The solution to accurate description of the phenomenon was the development of the Limited Use level.

As such, an adaptive perspective to the use of the Levels of Use framework was assumed for purposes of this research. The framework was modified to meet the needs of this research after much thought and testing. It was recognized that the Texas Group would not condone such an action and Hall's letter (previously mentioned) attests to the fact. It was deemed that, in the interest of accurate reporting and valid research, a contingent approach to the Levels of Use framework, as advocated by Berman (1980:214), was mandatory.

Implications

The implications that are addressed in this research pertain primarily to five major aspects of the findings: (1) the overall picture of the degree of implementation of the innovation, (2) the factors affecting the implementation of a conceptual model in a nursing education program, (3) the use of the Levels of Use framework in faculty inservice, (4) the identified concerns associated with curricular application of the model, and (5) the assessment of the effect of the innovation on the product of the program--the graduate nurse.

Three interesting category profiles of interviewees' use of the nursing model were generated in this investigation. There was some speculation that a broad spectrum of users may be appropriate in particular situations, yet, intuitively, one would suggest that having all faculty at a level of "Routine Use" or "Refinement" would be the ideal situation. The question arises as to whether an optimum mix of levels could be identified for a particular situation or as a general guideline towards which to consciously plan.

The assessment of the factors affecting the implementation of a conceptual model as the basis for a nursing curriculum was peripheral to this research. Yet their importance in any educational change undertaking cannot be ignored. Factors such as instructor orientation and support, situational paramenters, and change orientation all have an important bearing on the status of the implementation of the innovation. Brief attention has been directed to these in this chapter. Further research to enhance understanding of the role of such factors in facilitating change is mandatory.

It was suggested earlier that the Levels of Use framework has potential utility for faculty appraisal. Strengths and shortcomings relative to use of the innovation could be identified; interventions could be focused or targeted to the requirements of individuals at particular levels. Leary (1983:30) concluded that staff development targeted by aspects of the Concerns-Based Adoption Model can predictably affect user levels. It remains for this framework to be tested as such in a nursing education environment.

One outcome of the research was the identification of several concerns related to implementation of the nursing model in the curricular setting. These concerns suggested aspects of the conceptualization that may require particular attention when the model is being implemented in a setting. They represent areas where programs using the model could assist each other in achieving successful implementation relative to each of the inherent concepts. Further research in these areas may also enhance understanding relative to the nature of the concepts.

The major premise of this research was that, before one can assess the effects of an innovation on student outcomes, there must be evidence that the innovation has indeed been implemented in the situation. As such, this research represented a first step towards addressing a primary concern: to what extent does the innovation (the nursing model), when incorporated as the nursing conceptual basis in an educational program, affect graduate performance? As Sister Callista Roy (1986:3) stated,

> The proof is in the product. Do the nurses, do the graduates practice as adaptation nurses, if you will? In other words, do they come out with a sense of a knowledge about what adaptation nursing is about--what promoting people's adaptation is about and enough skills to be able to do that?

The groundwork has begun but the major question remains.

Conclusions

Bogdan and Bilken (1982:182) admonished that the concluding statements in a qualitative research undertaking provide "a definitive statement of what you have come to understand and why the work is important" and such is the nature of these concluding remarks. Addressed in this conclusion are (1) understandings that relate directly to the purpose of the research, (2) impressions that have evolved during its conduct and related to the methods involved in the undertaking, and (3) the practical, methodological, and theoretical contributions of the research.

Reflection on the Purpose

As was highlighted at the beginning of this chapter, the purpose of this research was to describe and analyze the extent to which the Roy Adaptation Model had been implemented in three schools of nursing. The findings provide evidence that the three programs had implemented the key concepts of the model but that various aspects of the concepts had been adapted and/or elaborated to suit the needs of the program and to operationalize the concepts for faculty and students in the care of patients. Faculty members demonstrated an assortment of profiles relative to their personal use of the model in teaching situations and students provided evidence of an awareness of the model and its related concepts with varying degrees of ability to describe the manner in which it influenced their practice. A number of concerns (summarized in Table 8.2) were identified that related to the curricular use of the model. Concerns regarding practice, program organization, complexity of the model, and understanding of concepts were common to the three programs. Two programs had concerns about consistency in interpretation of concepts; commitment to the use of the model was a concern in one of the programs.

Reflection on the Methods

This research was described as a multi-site organizational study involving three Canadian schools of nursing known to be using the Roy Adaptation Model. Information relative to sixteen curricular dimensions was obtained primarily through document analysis, interview, and questionnaire.

Discussion of the Levels of Use interview has occurred earlier in this chapter. Some concerns regarding its use in an undertaking such as this were identified yet associated advantages were also acknowledged. Document analysis provided a comprehensive picture of the manner in which the curriculum had been designed around the Roy Model. The researcher's perception of the manner in which the Model was actually implemented in practice would have been further enhanced by extensive observation of every faculty member in classroom and clinical situations and inability to do this was a limitation associated with this study. The advantages of extended observation in an institutional setting to obtain an enhanced perception of the implementation were acknowledged.

The two-day site visit as it was conducted provided a wealth of information about each of the schools. The identification of the sixteen curricular dimensions in the conceptual phase of the study enhanced the efficiency of the visits as did the use of the Levels of Use generic interview. The adaptations made to the Levels of Use framework enhanced the validity of the reporting of data.

Practical, Methodological, and Theoretical Contributions

The significance of this research as related to the concept of "degree of implementation" of a specific innovation was addressed in Chapter 1. Practically, the approach used in this study has enabled the researcher to take a close look at and document the implementation of one particular nursing model in three different programs. As such, it has been possible to determine how concepts associated with the model actually appeared in curricular documentation. It has also been possible to describe how and the extent to which a number of faculty members describe its application in their teaching situations. The research has provided a basis for further research on the implementation and evaluation of this particular educational innovation, that is, the use of a nursing model as the conceptual basis for curriculum development.

A qualitative approach to implementation assessment was used in this study. Through the use of the curricular dimensions, a focal point was gained for the collection of information. The application of the Levels of Use framework revealed some unexpected constraints in the rating of interviews but the modification to the framework, although not endorsed by the developers, served an important purpose in this study.

Theoretically, this study served to document the educational implementation of a prominent nursing model. Concerns associated with the application of the Roy Model in the educational setting were identified. As an application of theory related to educational change and innovation, the research contributed to that body of knowledge in two ways: (1) the identification and assessment of curricular dimensions associated with the implementation of a nursing mdel; and (2) the further evidence that faculty members do demonstrate different levels of application of the concepts in their teaching situations.

This research has been but a beginning application of educational change theory to the field of nursing education. It has been a preliminary examination of the manner in which nursing models have been incorporated in selected educational programs. As with much qualitative research, it has served to generate further questions--questions about degrees of implementation, nursing models and the curriculum, and the effects of innovation on student outcomes.

Summary

This concluding chapter in the dissertation has served an interpretive function by providing a summary of the research and interpretive discussion of specific topics. In particular, discussion related to the manner in which the decision came about to adopt the Roy Model, adaptations to the model in each program, concerns associated with curricular application of the model, and the Levels of Use framework.

Implications pertained to the overall picture of degree of implementation of the innovation, the factors affecting the implementation of this type of innovation, the Levels of Use framework in faculty inservice, and assessment of the effect of the innovation on the graduate of the program. Conclusions associated with the research involved understandings derived from the study, impressions related to the methods, and the identification of some practical, methodological, and theoretical contributions of the research.

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Appendix A

Levels of Use Chart

Source: Hall, G.E., Loucks, S.F., Rutherford, W.L., and Newlove, B.W.
1985 "Levels of Use of the innovation: a framework for analyzing innovation adoption." Journal of Teacher Education 26 (1):55, 56.

SCALE POINT DEFINITIONS OF THE LEVELS OF USE OF THE INNOVATION	**CATEGORIES**	
Levels of Use are distinct states that represent observably different types of behavior and patterns of innovation use as exhibited by individuals and groups. These levels characterize a user's development in acquiring new skills and varying use of the innovation. Each level encompasses a range of behaviors, but is limited by a set of identifiable Decision Points. For descriptive purposes, each level is defined by seven categories.	**KNOWLEDGE** **That which the user knows about characteristics of the innovation, how to use it, and consequences of its use. This is cognitive knowledge related to using the innovation, not feelings or attitudes.**	**ACQUIRING INFORMATION** **Solicits information about the innovation in a variety of ways, including questioning resource persons, corresponding with resource agencies, reviewing printed materials, and making visits.**
LEVEL 0 NON-USE: State in which the user has little or no knowledge of the innovation, no involvement with the innovation, and is doing nothing toward becoming involved.	Knows nothing about this or similar innovations or has only very limited general knowledge of efforts to develop innovations in the area.	Takes little or no action to solicit information beyond reviewing descriptive information about this or similar innovations when it happens to come to personal attention.
DECISION POINT A	*Takes action to learn more detailed information about the innovation.*	
LEVEL I ORIENTATION: State in which the user has acquired or is acquiring information about the innovation and/or has explored or is exploring its value orientation and its demands upon user and user system.	Knows general information about the innovation such as origin, characteristics, and implementation requirements.	Seeks descriptive material about the innovation. Seeks opinions and knowledge of others through discussions, visits, or workshops.
DECISION POINT B	*Makes a decision to use the innovation by establishing a time to begin.*	
LEVEL II PREPARATION: State in which the user is preparing for first use of the innovation.	Knows logistical requirements, necessary resources and timing for initial use of the innovation, and details of initial experiences for clients.	Seeks information and resources specifically related to preparation for use of the innovation in own setting.
DECISION POINT C	*Begins first use of the innovation.*	
LEVEL III MECHANICAL USE: State in which the user focuses most effort on the short-term, day-to-day use of the innovation with little time for reflection. Changes in use are made more to meet user needs than client needs. The user is primarily engaged in a stepwise attempt to master the tasks required to use the innovation, often resulting in disjointed and superficial use.	Knows on a day-to-day basis the requirements for using the innovation. Is more knowledgeable on short-term activities and effects than long-range activities and effects of use of the innovation.	Solicits management information about such things as logistics, scheduling techniques, and ideas for reducing amount of time and work required of user.
DECISION POINT D-1	*A routine pattern of use is established.*	
LEVEL IV A ROUTINE: Use of the innovation is stabilized. Few if any changes are being made in ongoing use. Little preparation or thought is being given to improving innovation use or its consequences.	Knows both short- and long-term requirements for use and how to use the innovation with minimum effort or stress.	Makes no special efforts to seek information as a part of ongoing use of the innovation.
DECISION POINT D-2	*Changes use of the innovation based on formal or informal evaluation in order to incre*	
LEVEL IV B REFINEMENT: State in which the user varies the use of the innovation to increase the impact on clients within immediate sphere of influence. Variations are based on knowledge of both short- and long-term consequences for clients.	Knows cognitive and affective effects of the innovation on clients and ways for increasing impact on clients.	Solicits information and materials that focus specifically on changing use of the innovation to affect client outcomes.
DECISION POINT E	*Initiates changes in use of innovation based on input of and in coordination with what*	
LEVEL V INTEGRATION: State in which the user is combining own efforts to use the innovation with related activities of colleague's to achieve a collective impact on clients within their common sphere of influence.	Knows how to coordinate own use of the innovation with colleagues to provide a collective impact on clients.	Solicits information and opinions for the purpose of collaborating with others in use of the innovation.
DECISION POINT F	*Begins exploring alternatives to or major modifications of the innovation presently in*	
LEVEL VI RENEWAL: State in which the user reevaluates the quality of use of the innovation, seeks major modifications of or alternatives to present innovation to achieve increased impact on clients, examines new developments in the field, and explores new goals for self and the system.	Knows of alternatives that could be used to change or replace the present innovation that would improve the quality of outcomes of its use.	Seeks information and materials about other innovations as alternatives to the present innovation or for making major adaptations in the innovation.

Procedures for Adopting Educational Innovations Project, Research and Development Center for Teacher Education, University
No. NIE-C-74-0087.

	SHARING	ASSESSING
	Discusses the innovation with others. Shares plans, ideas, resources, outcomes, and problems related to use of the innovation.	**Examines the potential or actual use of the innovation or some aspect of it. This can be a mental assessment or can involve actual collection and analysis of data.**
	Is not communicating with others about the innovation beyond possibly acknowledging that the innovation exists.	Takes no action to analyze the innovation, its characteristics, possible use, or consequences of use.
	Discusses the innovation in general terms and/or exchanges descriptive information, materials, or ideas about the innovation and possible implications of its use.	Analyzes and compares materials, content, requirements for use, evaluation reports, potential outcomes, strengths and weaknesses for purpose of making a decision about use of the innovation.
	Discusses resources needed for initial use of the innovation. Joins others in pre-use training, and in planning for resources, logistics, schedules, etc., in preparation for first use.	Analyzes detailed requirements and available resources for initial use of the innovation.
	Discusses management and logistical issues related to use of the innovation. Resources and materials are shared for purposes of reducing management, flow and logistical problems related to use of the innovation.	Examines own use of the innovation with respect to problems of logistics, management, time, schedules, resources, and general reactions of clients.
ise client outcomes.	Describes current use of the innovation with little or no reference to ways of changing use.	Limits evaluation activities to those administratively required, with little attention paid to findings for the purpose of changing use.
colleagues are doing.	Discusses own methods of modifying use of the innovation to change client outcomes.	Assesses use of the innovation for the purpose of changing current practices to improve client outcomes.
use.	Discusses efforts to increase client impact through collaboration with others on personal use of the innovation.	Appraises collaborative use of the innovation in terms of client outcomes and strengths and weaknesses of the integrated effort.
	Focuses discussions on identification of major alternatives or replacements for the current innovation.	Analyzes advantages and disadvantages of major modifications or alternatives to the present innovation.

f Texas at Austin, 1975, N.I.E. Contract

CATEGORIES

PLANNING	STATUS REPORTING	PERFORMING
Designs and outlines short- and/or long-range steps to be taken during process of innovation adoption, i.e., aligns resources, schedules activities, meets with others to organize and/or coordinate use of the innovation.	**Describes personal stand at the present time in relation to use of the innovation.**	**Carries out the actions and activities entailed in operationalizing the innovation.**
Schedules no time and specifies no steps for the study or use of the innovation.	Reports little or no personal involvement with the innovation.	Takes no discernible action toward learning about or using the innovation. The innovation and/or its accouterments are not present or in use.
Plans to gather necessary information and resources as needed to make a decision for or against use of the innovation.	Reports presently orienting self to what the innovation is and is not.	Explores the innovation and requirements for its use by talking to others about it, reviewing descriptive information and sample materials, attending orientation sessions, and observing others using it.
Identifies steps and procedures entailed in obtaining resources and organizing activities and events for initial use of the innovation.	Reports preparing self for initial use of the innovation.	Studies reference materials in depth, organizes resources and logistics, schedules and receives skill training in preparation for initial use.
Plans for organizing and managing resources, activities, and events related primarily to immediate ongoing use of the innovation. Planned-for changes address managerial or logistical issues with a short-term perspective.	Reports that logistics, time, management, resource organization, etc., are the focus of most personal efforts to use the innovation.	Manages innovation with varying degrees of efficiency. Often lacks anticipation of immediate consequences. The flow of actions in the user and clients is often disjointed, uneven and uncertain. When changes are made, they are primarily in response to logistical and organizational problems.
Plans intermediate and long-range actions with little projected variation in how the innovation will be used. Planning focuses on routine use of resources, personnel, etc.	Reports that personal use of the innovation is going along satisfactorily with few if any problems.	Uses the innovation smoothly with minimal management problems; over time, there is little variation in pattern of use.
Develops intermediate and long-range plans that anticipate possible and needed steps, resources, and events designed to enhance client outcomes.	Reports varying use of the innovation in order to change client outcomes.	Explores and experiments with alternative combinations of the innovation with existing practices to maximize client involvement and to optimize client outcomes.
Plans specific actions to coordinate own use of the innovation with others to achieve increased impact on clients.	Reports spending time and energy collaborating with others about integrating own use of the innovation.	Collaborates with others in use of the innovation as a means for expanding the innovation's impact on clients. Changes in use are made in coordination with others.
Plans activities that involve pursuit of alternatives to enhance or replace the innovation.	Reports considering major modifications of or alternatives to present use of the innovation.	Explores other innovations that could be used in combination with or in place of the present innovation in an attempt to develop more effective means of achieving client outcomes.

Appendix B

Announcement and Request

ANNOUNCEMENT & REQUEST

for users of

THE ROY ADAPTATION MODEL

A doctoral research project is being undertaken by Heather A. Andrews to describe and analyze the extent to which the Roy Adaptation Model is being applied in nursing programs.

Initially, nursing programs using the Roy Adaptation Model are being requested to provide preliminary data about their program. From these schools, a sample of programs will be chosen to be part of an indepth study. Would your school be willing to participate as part of the sample?

The methodology for the indepth study includes a site visit of 2 or 3 days by the project director, Heather Andrews. Included would be document analysis of such items as applicant brochures, philosophy and terminal objective statements and any other material that you feel would convey the manner in which your program uses the Roy Adaptation Model. In addition, permission will be sought to conduct a number of interviews with members of your faculty.

If you would like to submit the name of your nursing program for potential inclusion in the sample, please complete the attached information form and return it in the enclosed envelope.

If you cannot participate in the study, it would be appreciated if you could still provide some information about your program so that basic information about schools using the Roy Model can be compiled.

The sample for the study will be selected from the schools indicating that they would like to be considered for inclusion.

If you desire further information about the project, please contact

Heather A. Andrews, R.N., M.H.S.A.
61 Executive Estates
52319 Range Road 231
Sherwood Park, Alberta, Canada T8B 1A8
Telephone No. (403) 467-2155

Thank you for your attention to and consideration of the attached information form.

INFORMATION FORM

The intent of this INFORMATION FORM is to acquire some preliminary information about nursing programs using the ROY ADAPTATION MODEL as a basis for their curriculum.

Those schools that indicate they would be willing to participate in the indepth investigation described on the previous page will be considered in the selection of the sample.

Please complete the following items. All information provided will be treated confidentially and anonymously.

Type of program offered (check one) _____ diploma
_____ associate degree
_____ baccalaureate

Length of program in weeks (excluding vacation) _____ weeks

Average number of graduates per year _____

Average number of students per class _____

Date of implementation* of Roy Adaptation Model ______________
*The point at which the first class was admitted to the Roy program.

Approximate number of graduates from the Roy program _____

Name of Program ____________________

Address ____________________
____
____

Program dean/director/head to whom correspondence should be addressed

Name ____________________

Title ____________________

Phone No. (_____) _____-________

Please indicate your willingness to be involved in this project.

_____ Yes, this school is willing to be considered in sample selection.
_____ No, this school is limited in its application of the model.
_____ No, this school has discontinued use of the model.
_____ No, this school cannot participate at this point in time.

For further information, please call Heather Andrews (403) 467-2155.
Thank you for your consideration of this request.

Appendix C

Institutional Consent Form

Institutional Consent Form

PROJECT TITLE: The Roy Adaptation Model and Its Curricular Application: An Implementation Study

INVESTIGATOR: Heather A. Andrews, R.N., M.H.S.A., Ph.D. (candidate)
Department of Educational Adminstration,
University of Alberta

ADVISOR: Dr. D.A. MacKay, Professor, Department of Educational Administration, University of Alberta

This is to certify that I, ____________________ have the authority to and
(print)

hereby agree to allow the ____
(name of nursing program)

to be accessed as a sample nursing program in a research project which describes and analyzes the use of the Roy Adaptation Model in the curriculum.

I understand that the research will involve interviews with faculty members and students as well as review of curricular documents that could convey the manner in which this above-named nursing program is using the Roy Adaptation Model.

I also understand that the information provided will be used to form a composite picture related to the use of the Roy Adaptation Model in the above-named program but that the identity of the program will in no way be revealed unless permission is granted at a later date.

___________________________ ___________________________
(Signature of Participant) (Date)

___________________________ ___________________________
(Signature of Witness) (Signature of Investigator)

Appendix D

Interview Schedule

Source: Research and Development Center for Teacher Education 1980 "LoU Interview" Handout #13. Levels of Use Workshop. Phoenix, Arizona, March 12 - 14, 1986.

Levels of Use Interview

0-II/III-VI	Are you currently using __________?

If yes, turn page. If no, continue.

NO

Have you ever used it in the past? If so, when? Why did you stop?

If yes, go to PAST USERS (Below)

If no, continue.

0/I-II	Have you made a decision to use _____________ in the future?
I/II	If so, when will you begin use?
Knowledge	Can you describe __________ for me as you see it?
Acquiring Information	Are you currently looking for any information about __________? What kinds? For what purposes?
Knowledge	What do you see as the strengths and weaknesses of __________ in your situation?
Assessing	At this point in time, what kinds of questions are you asking about _________? Give examples if necessary.
Sharing	Do you ever talk with others and share information about __________? What do you share?
Planning	What are you planning with respect to __________? Can you tell me about any preparation or plans you have been making for the use of __________?
Final Question	Can you summarize for me where you see yourself right now in relation to the use of __________?

PAST USERS

Can you describe for me how you organized your use of __________, what problems you found, what its effects appeared to be on students?

When you assess __________ at this point in time, what do you see as the strengths and weaknesses?

NOW, GO TO ABOVE SECTION, STARTING WITH QUESTION MARKED 0/I-II.

YES

Open-ended	Please describe for me how you use __________? (Ask sufficient questions to cover minimal criteria for use.)
Assessing/ Knowledge	What do you see as the strengths and weaknesses of __________ in your situation? (Have you made any attempt to do anything about weaknesses? Probe those they mention specifically.)
Acquiring Information	Are you currently looking for any information about __________? What kind? For what purposes?
LoU V	Do you with with others in your use of __________? Do you meet on a regular basis? Have you made any changes in your use of __________ based on this coordination? If yes, go to LoU V Probes (Below)
Sharing	Do you ever talk with others about __________? What do you tell them?
Assessing	(Have you considered any alternatives or different ways of doing things with the program?) Are you doing any evaluating, either formally or informally, that would affect your use of __________? Have you received any feedback from students that would affect the way you're using __________? What have you done with the information you got?
III/IVA/IVB	Have you made any changes recently in how you use __________? What? Why? How recently? Are you considering making any changes?
Planning/Status Reporting	As you look ahead to later this year, what plans do you have in relation to your use of __________?
III-V/VI	Are you considering or planning to make major modifications or replace __________ at this time?

LoU V Probes

1. Please describe for me how you work together. (What things do you share with each other?)
2. What do you see as the effects of this collaboration?
3. Are you looking for any particular kind of information in relation to this collaboration?

4. Do you talk with others about your collaboration? If so, what do you share with them?

5. Have you done any formal or informal evaluation of how your collaboration is working?

6. What plans do you have for this effort in the future?

If you have enough evidence to place the person at an LoU V, go to Question III-V/VI.

If you do not think the person is an LoU V, go to Question Sharing.

Appendix E

Informed Consent Form

Informed Consent Form

PROJECT TITLE: The Roy Adaptation Model and Its Curricular Application: An Implementation Study

INVESTIGATOR: Heather A. Andrews, R.N., M.H.S.A., Ph.D. (candidate)
Department of Educational Administration,
University of Alberta

ADVISOR: Dr. D.A. MacKay, Professor, Department of Educational Administration, University of Alberta

This is to certify that I, ________________________ hereby agree to
(print)

participate as a subject in a research project which describes and analyzes the use of the Roy Adaptation model in the nursing program in which I teach.

I consent to be interviewed by the principal investigator and to have the interview taped. I understand that the interview will be heard by one other person unrelated to my institution for reliability purposes but that my identity will not be revealed.

I understand that I am free to decline to answer specific questions during the interview.

I understand that the information I provide will be used to form a composite picture related to the use of the Roy Adaptation Model in my institution.

____
(Signature of Participant)

____
(Date)

____
(Signature of Investigator)

Appendix F

Questionnaire

QUESTIONNAIRE

The purpose of this questionnaire is to obtain some of your perceptions about your nursing program. Please respond to the following questions as briefly as possible. Do not sign your name so that your response will remain anonymous.

1. Are you aware of a specific model for nursing that forms the basis for your nursing program? If so, what is it?

2. What would you identify as essential elements or key concepts of the nursing model underlying your nursing program?

3. Briefly describe what you were first taught about what nursing is.

4. In what ways does the nursing model affect the manner in which your nursing program is conducted?

5. What influence does the nursing model have on what you do when you are caring for patients?

Thank you for your response.

Appendix G

Course Objectives and Mandatory Performance Behaviors (Algonquin College)

Revised March 1986

ALGONQUIN COLLEGE

NURSING PROGRAM

NURSING 45117
45118
45119 SEMESTER I

SECTION I - KNOWLEDGE OF THE PERSON ADAPTING

COURSE OBJECTIVES:

1. describe the individual in terms of Roy's adaptation model of nursing.
2. describe common behaviors which indicate adaptation in the four modes.
3. describe common stimuli which affect the individual's adaptation in the four modes.
4. use concepts and principles from the biological and psychosocial sciences to describe effective adaptive responses of healthy people.

MANDATORY PERFORMANCE BEHAVIORS

Students:

1.1 with assistance, use Roy's terms/concepts of needs, behaviors and modes to describe the individual.

1.2 describe the person as an adaptive system.

2.1 give examples of effective adaptive behavior.

3.1 give examples of environmental and lifestyle stimuli.

3.2 describe fire procedures and policies in their assigned practice agencies.

SECTION II - KNOWLEDGE AND ABILITY TO USE THE NURSING PROCESS

COURSE OBJECTIVES:

1. describe how the nursing process is used to promote adaptation.

Assessment

2. use skills of observation, measurement, interviewing and interpretation to
    a) assess responses of healthy individuals in the four modes.
    b) identify stimuli which influence adaptation in the four modes.

MANDATORY PERFORMANCE BEHAVIORS

Students:

Observation

2.1 identify environmental factors affecting observations.
2.2 observe using all senses.
2.3 observe systematically.
2.4 produce objective descriptions of observations verbally and in writing.

Measurement

2.5 perform the following measurement procedures:
    -TPR (including oral and axilla and alternative sites for pulse)
    -BP
    -Height and weight
    -Circumferences - head, chest extremities
    -Urine testing (sugar, acetone, albumin)
    -Handwashing

Interviewing

2.6 identify examples of factors which influence communication.
2.7 use language understood by the client
    a) adult
    b) child
2.8 recognize and use non-verbal communication.
2.9 listen attentively.
2.10 seek verbal feedback.

Assessment

2.11 collect behavioral data using a data collection format which is appropriate to the modes, needs and indices.
2.12 explain the relationship between the behaviors and needs.
2.13 observe and specifically describe stimuli which may be affecting the person's adaptation.
2.14 explain the relationship of the stimuli to the behaviors.

SECTION III - PROFESSIONAL AND PERSONAL GROWTH

COURSE OBJECTIVES

1. demonstrate awareness of legal and ethical guidelines affecting practice.
2. use established lines of communication identified for nursing students at this level.
3. demonstrate awareness of responsibilities as learners.

MANDATORY PERFORMANCE BEHAVIORS

Students:

1.1 comply with guidelines relevant to confidentiality.
2.1 demonstrate tact when interacting with personnel and clients in community health agencies.
3.1 adhere to the attendance policy.
3.2 prepare for clinical learning experience by
    a) completing assigned homework
    b) practising skills needed in setting.
3.3 participate in group discussions.
3.4 with assistance seek out learning opportunities in the practice settings.
3.5 contribute to own evaluation by using tools which are appropriate, e.g. anecdotes, checklists, process records (on a weekly basis).
3.6 accept guidance from teachers and agency personnel.

VITA

NAME: Heather A. Andrews

PLACE OF BIRTH: Calgary, Alberta

YEAR OF BIRTH: 1947

POST-SECONDARY EDUCATION:

(1) Nursing Diploma, University of Alberta Hospital School of Nursing, 1968.

(2) Bachelor of Science in Nursing, Post Basic, University of Alberta, 1976. Graduated with distinction.

(3) Master of Health Services Administration, University of Alberta, Fall, 1978. Thesis: "The Effect of Personalization and Veiled Threat Prompting Techniques on Nonrespondents."

(4) Doctor of Philosophy in Educational Administration, University of Alberta, Spring, 1987. Dissertation: "Curricular Implementation of the Roy Adaptation Model."

HONOURS AND AWARDS:

(1) Province of Alberta Graduate Scholarship, 1976.

(2) The Alberta Association of Registered Nurses, Edmonton, Chapter #7, Book Prize, 1976.

(3) An *American Journal of Nursing* Book of the Year Award for 1986 was awarded to *Essentials of the Roy Adaptation Model* by Andrews and Roy.

RELATED WORK EXPERIENCE:

(1) Athabasca University--Tutor and Acting Coordinator. 1981 - present.

(2) Independent Nursing Consultant, 1982 - present.

(3) Royal Alexandra Hospital School of Nursing--Assistant Director of Nursing Education, 1978 - 1981.

(4) University of Alberta Hospital School of Nursing--Nursing Instructor, Charge Nurse, General Duty Nurse, 1968 - 1974.

PUBLICATIONS:

(1) Heather A. Andrews, "Implementation of the Roy Adaptation Model: An Application of Educational Change Research." In Riehl, J.P. and Roy, S.C., Conceptual Models for Nursing Practice (3rd. ed.). New York: Appleton-Century-Crofts, forthcoming.

(2) Heather A. Andrews and Sister Callista Roy, Essentials of the Roy Adaptation Model. Norwalk, Connecticut: Appleton-Century-Crofts, 1986.

(3) Heather A. Andrews, the correspondence course "Understanding Research in Nursing," Athabasca, Alberta: Athabasca University, 1985.

(4) Heather A. Andrews, Educational Needs of Registered Nurses: A Report Commissioned by the Alberta Association of Registered Nurses. Edmonton, Alberta: The A.A.R.N., 1978.